

**Testimony of Tom Campion
Chairman of the Board of Zumiez, Inc.**

before the
U.S. Senate Environment and Public Works Committee

Thursday May 24, 2007

Hearing Topic: “The Issue of the Potential Impacts of Global
Warming on Recreation and the Recreation Industry”

Good morning. My name is Tom Campion. I’m the founder and chairman of Zumiez® Inc., a chain of more than 250 action sports retail stores that are located in 24 states. Ten of these states are represented by members of your Senate committee, including California, New York, New Jersey, Minnesota, Montana, Idaho, Wyoming and Oklahoma. Over the last 29 years we have built up an incredible business in serving teenage surf, skateboard and snowboard lifestyles: the Action Sports market. We are one of the largest retailers in the United States for snowboard hard goods and winter-related apparel. The growth in this segment of retail has contributed to our having yearly comparable store sales gains for 28 of our 29 years in business. We currently employ over 3,000 people and expect to grow our employee base by 20% a year. Our long-term success allowed the company to go public with a stock offering in 2005, and our business plan includes expanding to 800 stores nationwide over the next ten years. To learn more about Zumiez, I would refer you to our public SEC filings.

Weather and Clothing Purchases

I’m here today to speak to the impacts of global warming on the outdoor recreation industry, the winter component of my action sports business. Enclosed with my written comments is a list showing 7,000 retail locations in the United States that carry winter-related outdoor recreation products.

While my comments speak specifically to outdoor recreation specialty retailers, global warming will affect all clothing retailers in major parts of the United States. I’ve been in the clothing business for 37 years, and in my experience weather is the single biggest influence on purchases of clothes—larger even than the health of the economy. Weather is a very powerful motivator: when it gets cold you buy a jacket, you purchase gloves, a knit hat, and other items. When the weather turns warmer you buy a pair of shorts and a T-shirt. Without changes in weather customers shop more sporadically and in response to fashion cycles which can be very disruptive.

Clothing Sales Down Dramatically Last Winter

This past winter saw unseasonably warm weather in the Midwest and the Northeast United States, where Zumiez has over 70 stores. This season the sales of winter apparel and winter-related hard goods were down dramatically. The lack of sales resulted in

lower employment levels in the region, and lower payments for state sales taxes. The shortened winter season reduced consumer demand for winter products and led to a backing-up of seasonal inventories and the necessity for early markdowns of products.

Let me give you one small example from this last winter season: Zumiez has 40 stores between New York and New Jersey. There was no snow—or even significant cold weather—until late January 2007. Our comparable store sales in snow-related hard goods (snowboards, snowboard boots, bindings, gloves, goggles, and snow accessories) were down approximately 20% from the previous year. Snow-related soft goods (jackets, pants, base layer, *etc.*) in the same stores were more than 20% lower in comparables than the same categories company-wide. These sales figures are even more significant because the drops occurred during the heavily-weighted Christmas gift-giving season. Though winter did arrive in late January, our profit margins by then were eroded because customers expect to buy heavily marked-down products this deep into the season.

Clothing taxes are heavily weighted on sales in the 4th quarter of the year, which is Christmas and the bulk of the winter shopping season. When winters are warmer or come late, margins erode, merchandise backs up, employment levels suffer and states lose an historically solid resource for their state budgets.

Just in New York state in the last two months of 2006, Zumiez stores paid over \$200,000 in city, county, and state sales taxes on snow-related hard goods and soft goods. If you then consider that over 7,000 retail store locations carry winter-related products nationwide, you can understand the contribution of our business sector to the economy, and can imagine the potential economic effect of warmer winters across the country.

Impacts to Ski Resorts

But the economic effects of global warming on retail sales will go far beyond just the stores that specialize in the sales of outdoor apparel. It will dramatically affect many retailers of winter sports, products and business, as well as traditional businesses. One example is the ski resort industry. The skiing season's length and the quality of downhill skiing and snowboarding will be strongly affected in the coming years. Revenues in ski areas will likely decline due to a lack of snow, and some areas (such as in the Sierra Nevada) may be completely lost to the sport.

Impacts to Sports Equipment Exports

The trend towards warmer winter weather and the negative effects on snowfall and accumulation are also being seen in Europe and Asia. Snowfalls in Europe were down significantly this season, with very negative effects on the downhill skiing industry. Europe had the warmest December since records began in 1879. The Organization for Economic Cooperation and Development warned that many low-level resorts could soon be unviable, and predicted warmer temperatures in the future. Already, some banks are refusing to offer loans to resorts that are located at elevations under 5,000 feet (1,500 metres) due to fears for future snow cover. Germany is threatened the most, followed by some Austrian and Italian resorts. This in turn had negative economic consequences for the United States because American manufacturers export winter sports equipment to Europe and Asia.

Impacts to Business Cycles

The negative economic effects of global warming on winter apparel and sports equipment suppliers would mean fewer jobs in the future in these businesses. The lower revenues would mean that these businesses would purchase fewer materials, goods, and support services from other companies. These direct and indirect effects would result in a decrease in household income for many families, and would induce additional negative impacts as these households decrease their purchases from local businesses. The local economic impacts could be quite severe in an area that depends heavily on the health of a winter sports resort or business. Local land values could fall, and government costs and revenues could be greatly affected.

Impacts to Ecosystems and Natural Processes

The climate changes that will come to pass from global warming will ultimately affect the income, wealth, environment, and quality of life both overall and for particular groups of people. Changing ecosystems will affect the numbers and distribution of many plants and animals. Some of these changes will be subtle, but others may be dramatic, as in the retreat of cold-adapted species and the expansion of the range of various pests that do not tolerate cold or freezing conditions. Reductions in snowpack would have very negative consequences in the Pacific Northwest, where river flows, public water supplies and salmon habitat are all strongly dependent on the contribution of snowmelt. Reduced river flows would also affect river sports (boating, fishing, *etc.*)

Throughout the West, warmer dryer conditions would increase the occurrence fires and increase the difficulties of controlling such fires. Diminished water and higher fire seasons might also lead to more limited access to summer recreational opportunities and impacts to camping and hiking equipment and clothing purchases.

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I've included some additional materials with my comments that provide some figures on the winter sports industry and business, and that show the economic contribution of these businesses to all regions of the United States. A few references are also provided to some of the literature about global warming and its effects.

Climate change poses a serious challenge to social and economic development in all countries. I'd like to recommend that the United States take a positive and leadership role in responding to and addressing global warming. Ten bills have been introduced in Congress to initiate this greater response. While the particular mix of measures varies between the bills, the reduction of CO₂ contributions and the overall reduction of atmospheric CO₂ must be our objectives. The analysis by the World Resources Institute indicate that at this point, the measures in S. 309, the Sanders-Boxer bill in the Senate and the corresponding H.1590 in the House, would best accomplish these objectives.

Senators, for almost 30 years I've built up my business, based in large part on supplying the needs of the winter season in the United States. I've been very successful—enough to expand to 250 stores. I've overcome every business challenge to date. But if I'm going to execute my business plan to grow to 800 stores and employ an additional 7,000 people, I need your help. We need to acknowledge that global warming is here and that it is bigger than any one business sector can handle on its own. As a country we need to start dealing with global warming now.

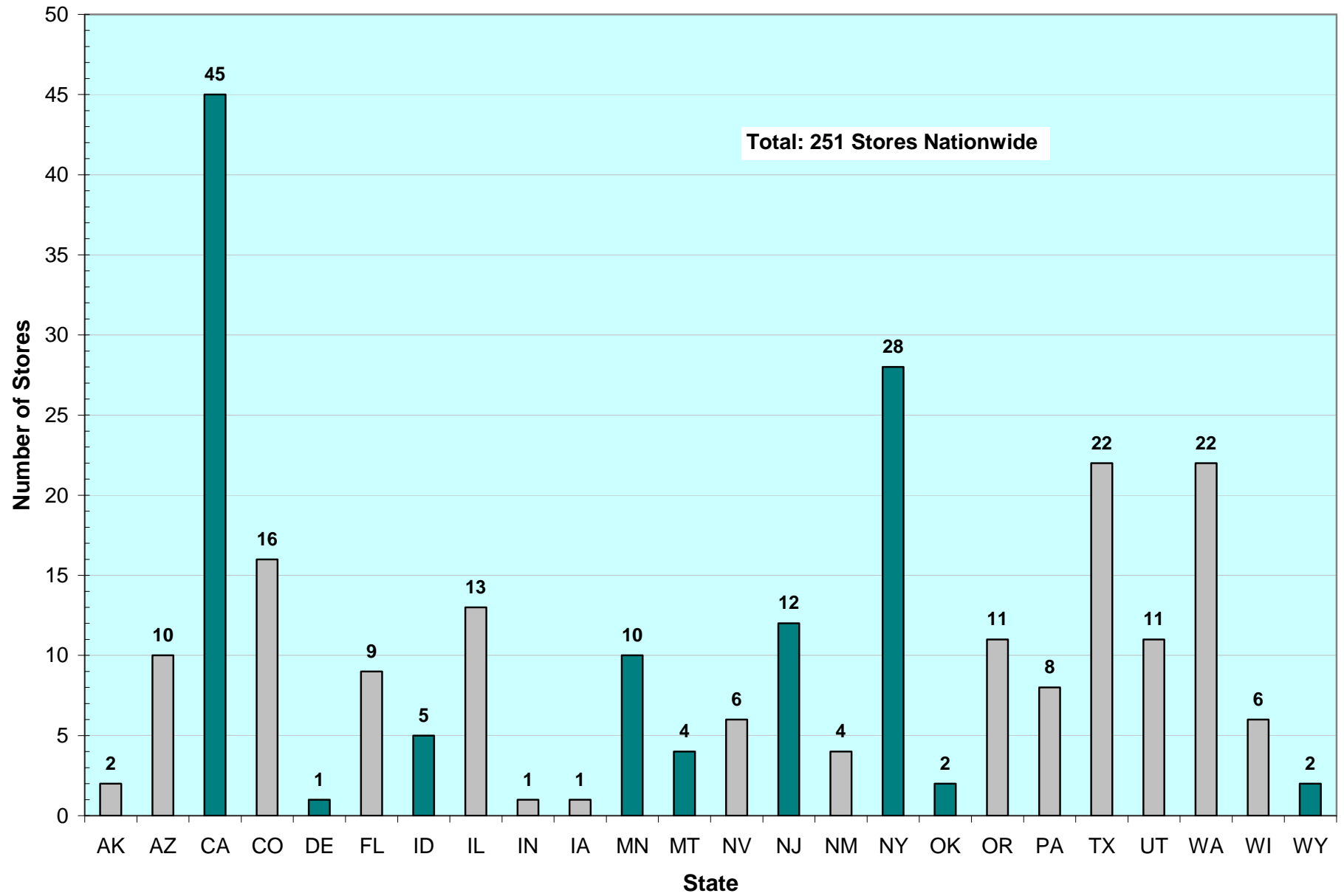
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Supplemental Information

1. Zumiez stores by state
2. Winter Sports retailers, resorts and other businesses
 - number of businesses
 - dollar sales
 - locations by state (totals and map)
3. Graph showing the November-December seasonality of winter product sales
4. Information on Winter Season 2006–2007
 - summary information
 - map of December 2006 temperatures compared to long-term average (1971–2000)
 - ski resorts opening early /on time/late 2006–2007 compared to 2005–2006
5. Information on Ski Resorts 2004–2006
6. A Summary Report on the Active Outdoor Recreation Economy
7. Some References to Current and Future Impacts of Global Warming

Zumiez Stores by State



Source: Zumiez, Inc.

Retailers, Resorts & Other Companies

that purchase Snow Sport products from
suppliers & manufacturers

U.S. Winter Sports Stores and Companies*	Number
Specialty & Chain Retail Storefronts that sell skis and/or snowboards	5,000
Other Specialty & Chain Stores that sell apparel or accessories related to winter sports	2,000
Ski Areas / Resorts includes private and mixed-use areas	1,000
Miscellaneous includes: corporate buyers, guides, distributors, government agencies, military, schools, department stores, race teams, heli-ski operators, <i>etc.</i>	500
Total U.S. Winter Sports Stores and Companies	8,500

*Companies that purchase winter sports products to sell at retail, to rent, or to use for promotional or professional purposes

Source: Estimates from the SnowSports Industries America (SIA) Retail Database

Dollar Sales in Snow Sports Products

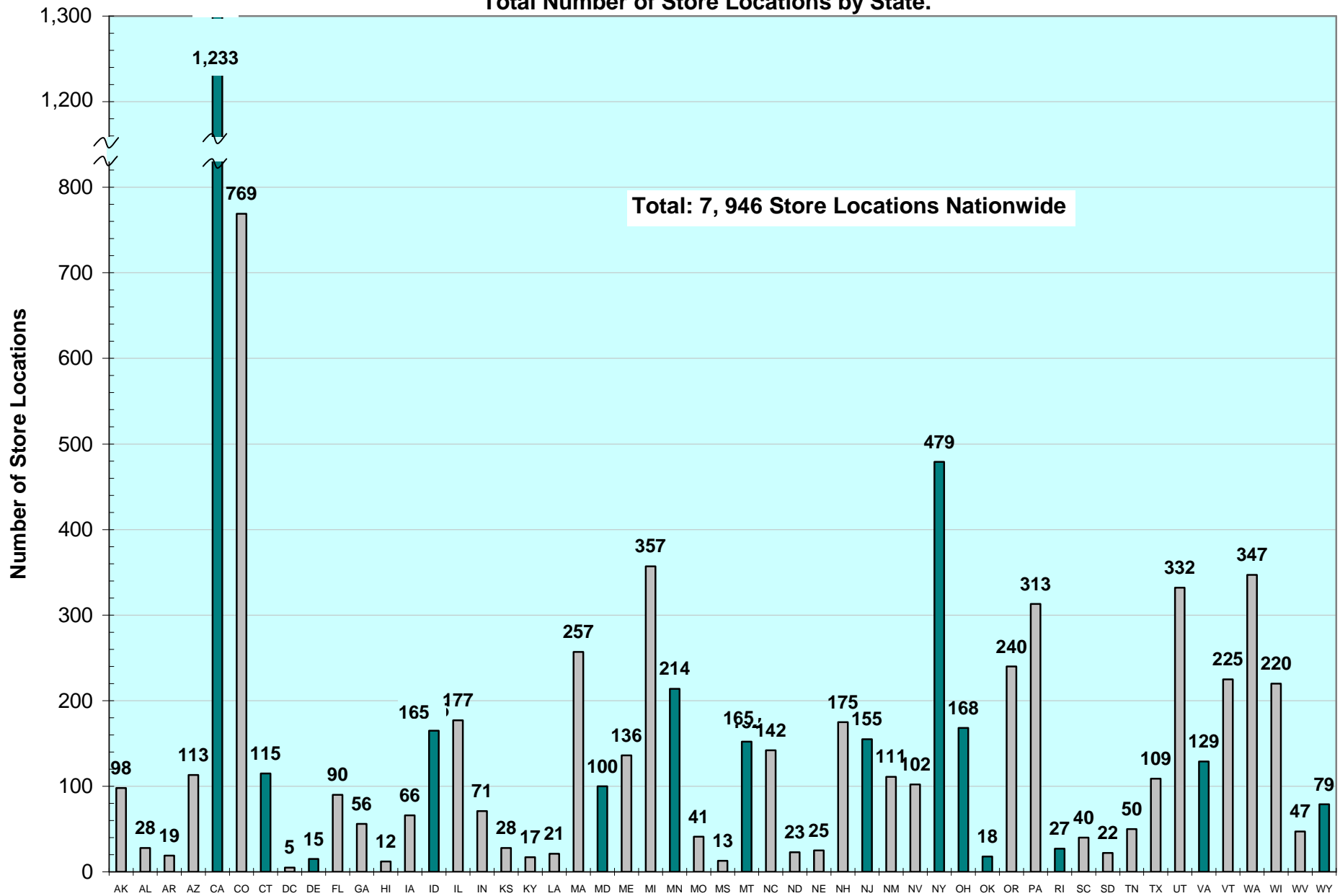
Sales in Specialty and Chain Stores
August 2005 – March 2006

Channel of Distribution	Equipment	Apparel	Accessories	All Snow Sports Products
Specialty	\$618,013,037	\$604,023,546	\$576,765,466	\$1,798,802,048
Chain	\$146,534,004	\$223,554,825	\$168,754,582	\$538,843,412
Total	\$764,547,041	\$827,578,371	\$745,520,048	\$2,337,645,460
<i>Percent of Total Dollar Sales</i>	33%	35%	32%	

Source: SnowSports Industries America (SIA) Retail Audit

Retail Stores that Sell Winter Sports Equipment or Apparel.

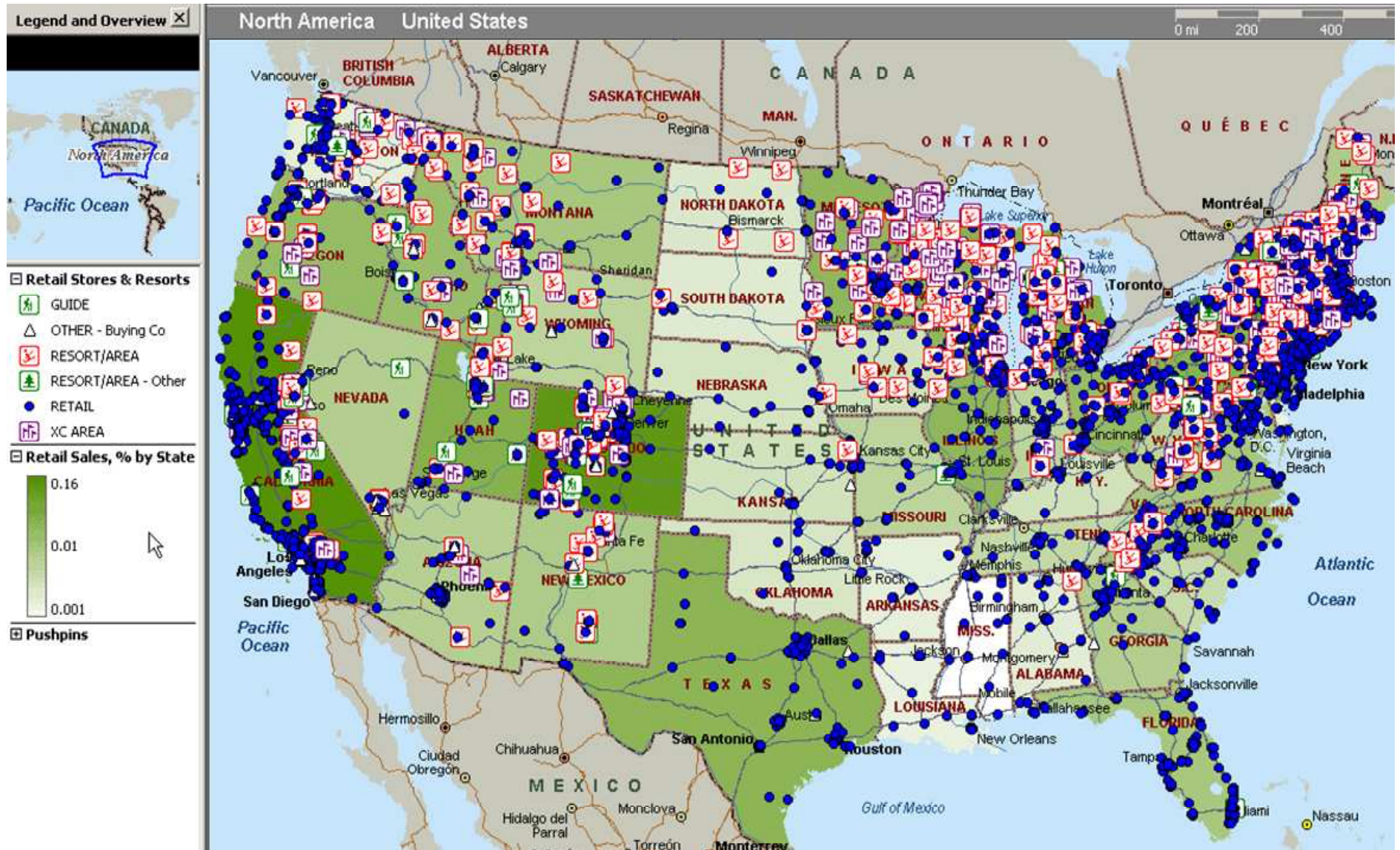
Total Number of Store Locations by State.



Source: SnowSports Industries America (SIA) Retail & Resorts Data

State

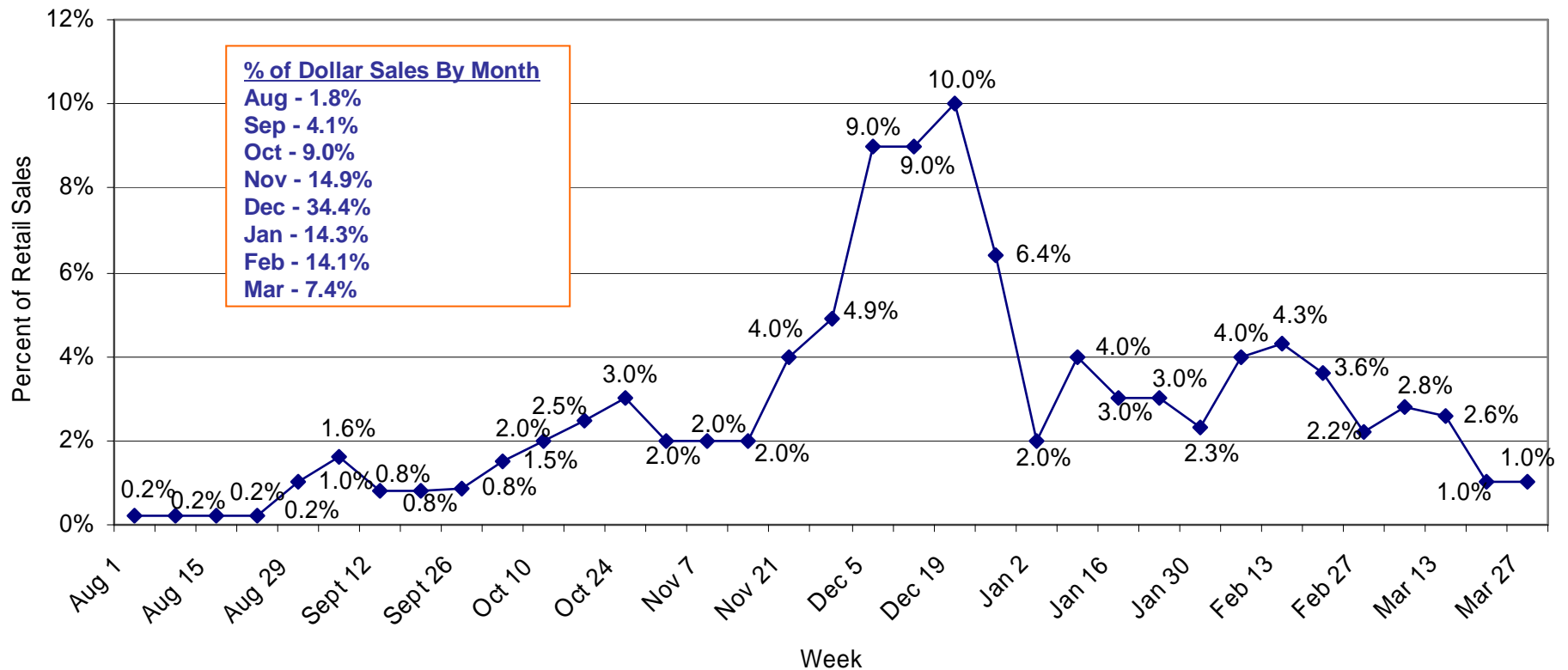
Winter Sports Retail Stores and Resorts



Source: SnowSports Industries America (SIA) Retail Database

Seasonal Sales of Snow Sports Products

Percent of Dollar Sales in Specialty and Chain Stores By Week*
August 2005 – March 2006



*The day represents the Monday of the week and the percent sales is for the following seven days.

Source: Estimates by Leisure Trends Group Retail Tracking Audit

Summary Observations on the 2006-2007 Winter Season

- Warm temperatures & below-average snowfall in 4 out of 5 regions
- Annual snowfall down 22 percent
- Delayed openings and unscheduled closures were common
- 2/3 of ski resorts reported declines in visitation, though revenues remained relatively solid

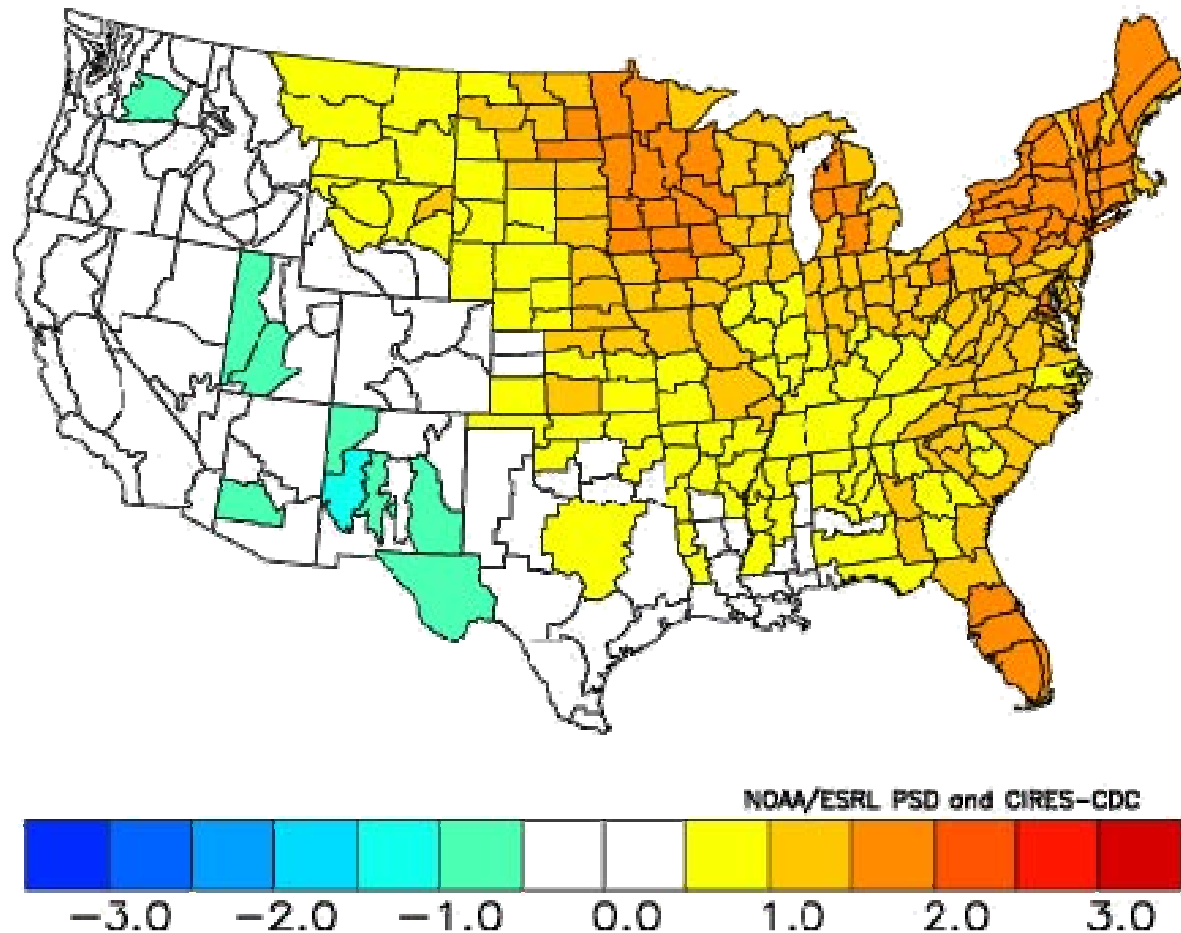
**2006-2007 skier visits are extrapolated from 178 reporting resorts
These resorts account for 42.0 million visits**

Source: **The State of the Industry Report, 2007. The National Ski Areas Association**



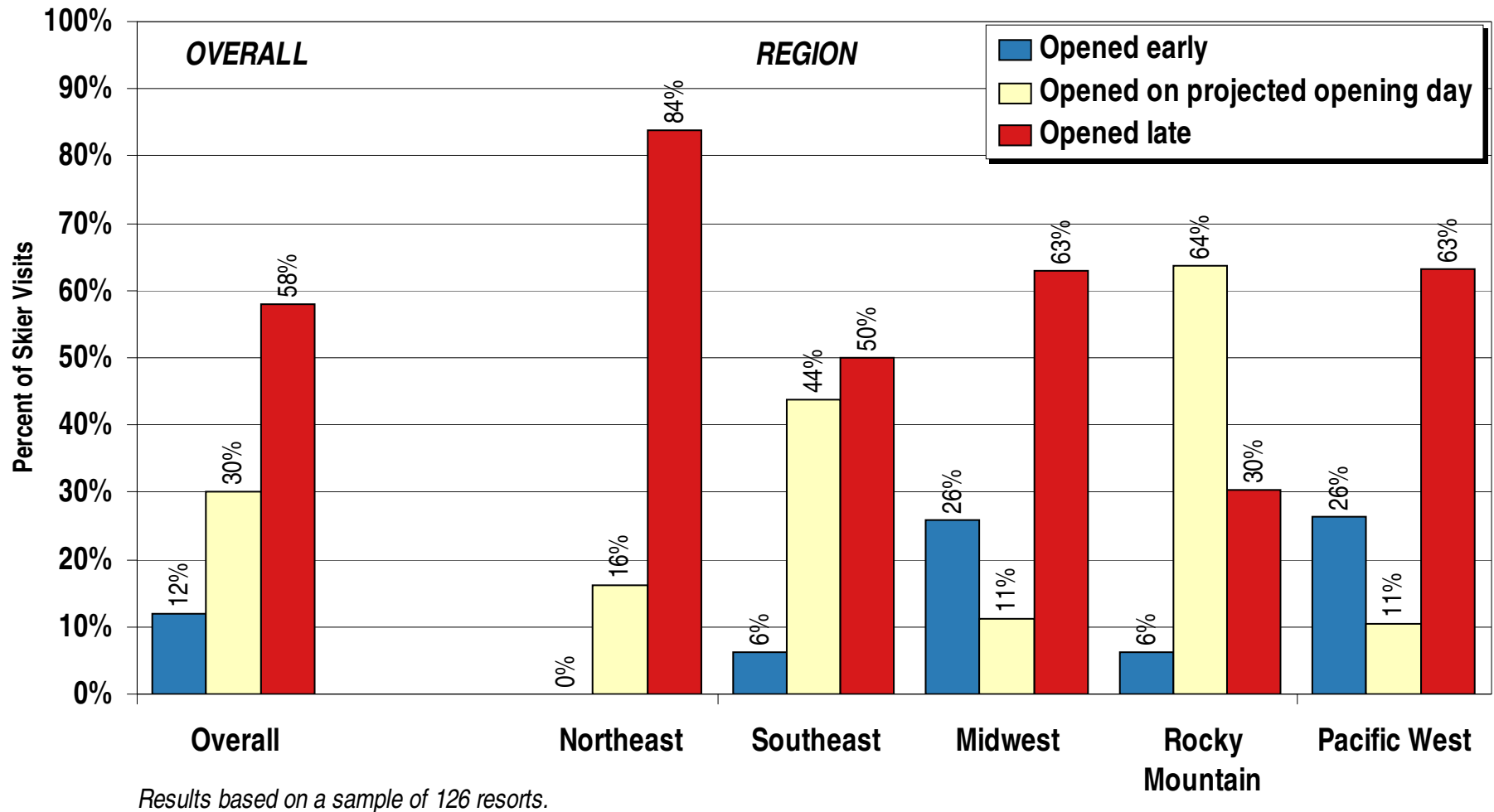
Standardized Temperature Anomalies

Dec. 2006 vs. Long-term Average (1971-2000)



Source: **The State of the Industry Report, 2007. The National Ski Areas Association**

Percent of Resorts Opening Early/On-time/Late (relative to projected opening date) 2006-2007 vs. 2005-2006

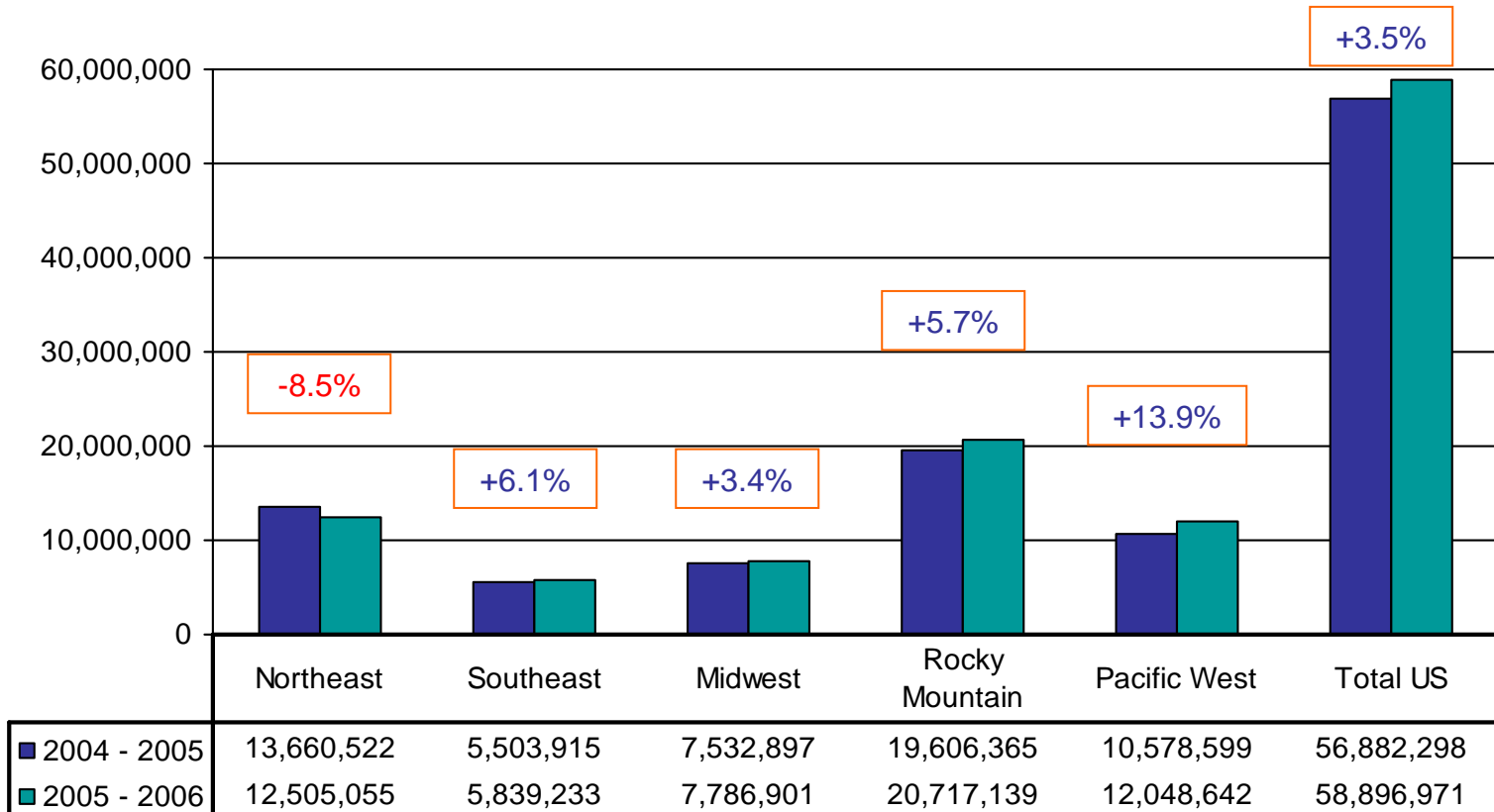


Source: **The State of the Industry Report, 2007.** The National Ski Areas Association

PRELIMINARY

Skier Visits

by Region, Aug. 2004 – March 2005
and Aug. 2005 – March 2006



Regions:

Northeast: CT, MA, ME, NH, NY, VT, RI.

Midwest: IA, IL, IN, MI, MN, MO, ND, NE, OH, SD, WI.

Pacific West: AK, AZ, CA, NV, OR, WA.

Southeast: AL, GA, KY, MD, NC, NJ, PA, TN, VA, WV.

Rocky Mountain: CO, ID, MT, NM, UT, WY.

Source: NSAA Kottke National End of Season Survey 2005 – 2006

Skier Visits

Top 10 States in 2005 – 2006

Rank	State	Estimated Skier Visits (millions)	Operating Ski Areas	Average Visits Per Resort
1	Colorado	12.5	27	462,714
2	California	7.4	30	264,951
3	Utah	4.2	14	299,100
4	Vermont	4.1	21	194,447
5	New York	3.7	48	77,452
6	Pennsylvania	3.1	32	96,748
7	Michigan	2.4	39	60,880
8	Washington	2.1	15	136,862
9	New Hampshire	2.0	25	78,878
10	Wisconsin	1.9	32	60,556

Source: NSAA Kottke National End of Season Survey 2005 – 2006

The Active Outdoor Recreation Economy

A \$730 BILLION ANNUAL CONTRIBUTION TO THE U.S. ECONOMY



Acknowledgments

The economic analysis was conducted by Southwick Associates, Inc. The consumer survey was developed and executed by Harris Interactive®.

Outdoor Industry Foundation® (OIF) would like to thank the following organizations who lent their expertise and support in developing this project:

Outdoor Industry Association (OIA)
Adventure Travel Trade Association (ATTA)
America Outdoors
American Sportfishing Association (ASA)
Bikes Belong
International Mountain Bicycling Association (IMBA)
National Ski Areas Association (NSAA)
Recreation Vehicle Industry Association (RVIA)
Snowsports Industries America (SIA)
Sporting Goods Manufacturers Association (SGMA)
Travel Industry of America (TIA)

OIF is extremely grateful to the following consultants who offered valuable technical guidance:

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Dr. John Loomis, Ph.D. (Colorado State University)
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Dr. Roger Moore, Ph.D. (North Carolina State)

The following corporations provided support to our research team with their very capable research staff:

Coleman
Jansport
Johnson Outdoors
Kampgrounds of America, Inc. (KOA)
Recreational Equipment, Inc. (REI)
Timberland

Portions of the study are based on the following published reports:

American Sportfishing Association – “Sportfishing in America: Values of Our Traditional Pastime,” 2002
International Association of Fish and Wildlife Agencies – “The Economic Importance of Hunting in America,” 2002
U.S. Fish and Wildlife Service – “2001 National and State Economic Impacts of Wildlife Viewing,” Published 2003

This report was made possible through the financial support of REI, OIA, and Outdoor Retailer.



OUTDOOR INDUSTRY FOUNDATION® IS A 501(c)3 NON-PROFIT DEDICATED TO ENCOURAGING PARTICIPATION IN ACTIVE OUTDOOR RECREATION AND HEALTHIER LIFESTYLES.

What Is the Active Outdoor Recreation Economy?

IT'S A \$730 BILLION ANNUAL CONTRIBUTION TO THE U.S. ECONOMY

More than three out of every four Americans participate in active outdoor recreation each year. Americans spend money, create jobs, and support local communities when they get outdoors. Simple, healthy outdoor activities such as hiking, biking, camping, or wildlife viewing generate enormous economic power and fuel a far-reaching ripple effect that touches many of the nation's major economic sectors.

THE RECREATION ECONOMY:

- **Contributes \$730 billion annually to the U.S. economy**
- **Supports nearly 6.5 million jobs across the U.S.**
- **Generates \$88 billion in annual state and national tax revenue**
- **Provides sustainable growth in rural communities**
- **Generates \$289 billion annually in retail sales and services across the U.S.**
- **Touches over 8 percent of America's personal consumption expenditures—more than 1 in every 12 dollars circulating in the economy**

Many people don't realize that having fun and staying healthy in the outdoors is essential to the continued growth of our economy. In order to thrive, however, this burgeoning, often overlooked industry needs to be recognized, stimulated, and supported. In this report, we explain how we determined the impact of the Active Outdoor Recreation Economy, how it interacts with the national economy, and how it affects all Americans. A technical report, published online at www.outdoorindustryfoundation.org, provides more detailed numbers and information on our methodology and findings.

WHAT DOES ACTIVE OUTDOOR RECREATION INCLUDE?



BICYCLING

- Paved-road bicycling
- Off-road bicycling



CAMPING

- RV camping at a campsite
- Tent camping at a campsite
- Rustic lodging



FISHING

- Recreational fly
- Recreational non-fly



HUNTING

- Shotgun
- Rifle
- Bow



PADDLING

- Kayaking (recreational, sea, whitewater)
- Rafting
- Canoeing



SNOW SPORTS

- Downhill skiing, including telemark
- Snowboarding
- Cross-country or Nordic skiing
- Snowshoeing



TRAIL

- Trail running on an unpaved trail
- Day hiking on an unpaved trail
- Backpacking
- Rock climbing (natural rock or ice)

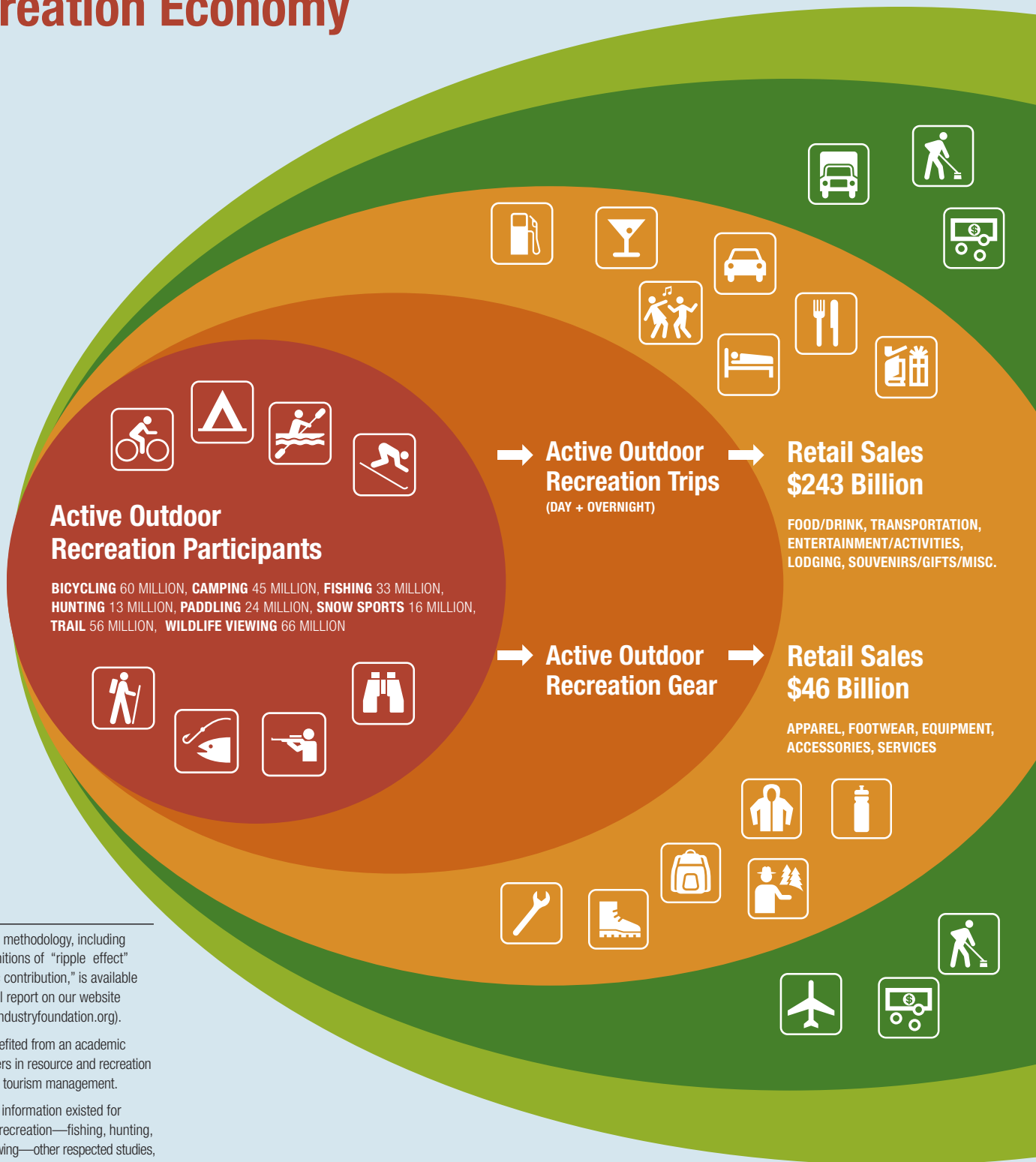


WILDLIFE VIEWING

- Bird watching
- Other wildlife watching

Note: The Active Outdoor Recreation Economy Report does not take into account non-market benefits, the increased value of land associated with recreation opportunities or economic benefits from environmental consequences of reserving land for recreation opportunities.

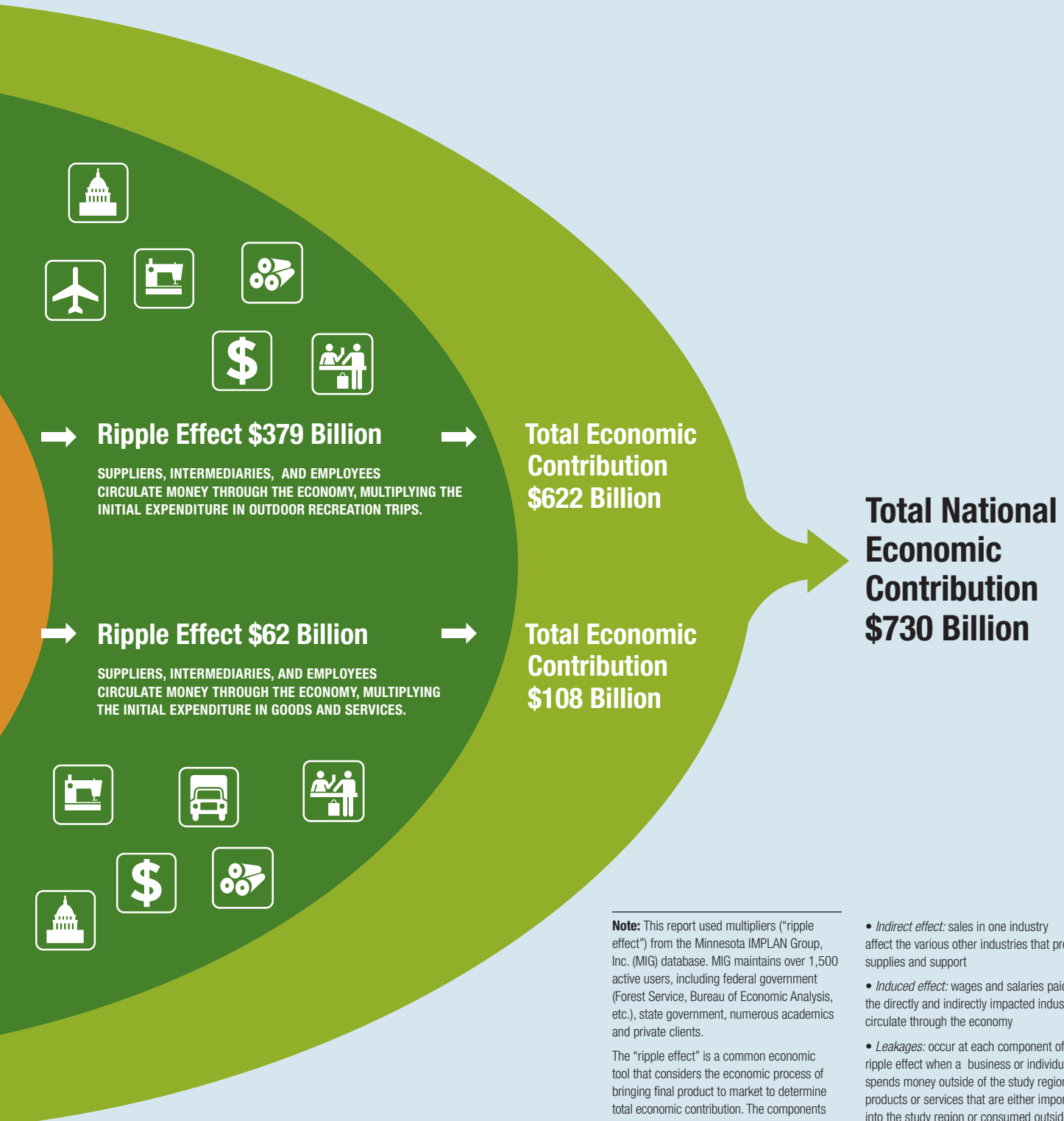
Meet the \$730 Billion Active Outdoor Recreation Economy



Note: Detailed methodology, including additional definitions of "ripple effect" and "economic contribution," is available in the technical report on our website (www.outdoorindustryfoundation.org).

This report benefited from an academic review by leaders in resource and recreation economics and tourism management.

Because great information existed for wildlife-based recreation—fishing, hunting, and wildlife viewing—other respected studies, such as the U.S. Fish and Wildlife report, were used to gauge these contributions.



Note: This report used multipliers ("ripple effect") from the Minnesota IMPLAN Group, Inc. (MIG) database. MIG maintains over 1,500 active users, including federal government (Forest Service, Bureau of Economic Analysis, etc.), state government, numerous academics and private clients.

The "ripple effect" is a common economic tool that considers the economic process of bringing final product to market to determine total economic contribution. The components of the ripple effect are:

- **Direct effect:** the initial purchase made by the consumer

- **Indirect effect:** sales in one industry affect the various other industries that provide supplies and support

- **Induced effect:** wages and salaries paid by the directly and indirectly impacted industries circulate through the economy

- **Leakages:** occur at each component of the ripple effect when a business or individual spends money outside of the study region for products or services that are either imported into the study region or consumed outside of the region.

Economic Contribution of Active Outdoor Recreation by Census Division

NATIONAL TOTALS

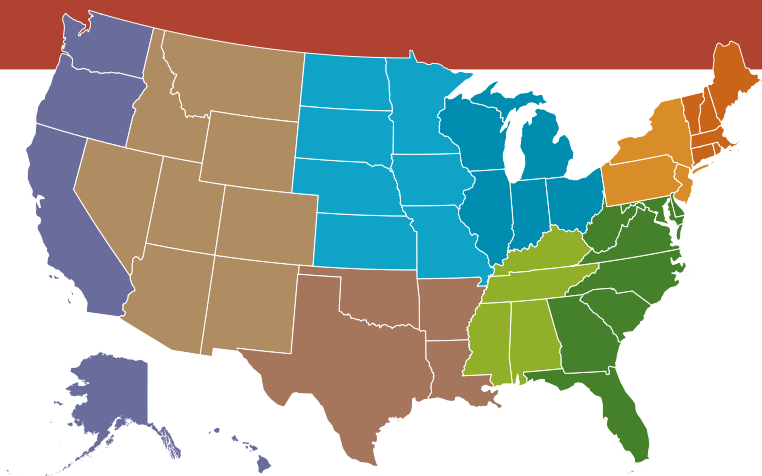
Total Contribution: \$730,979 million

Jobs Generated: 6,435,270

Gear Retail Sales: \$46,185 million

Trip-related Sales: \$243,244 million

Taxes (federal, state): \$87,867 million



DIVISION 1: NEW ENGLAND TOTALS

CT, ME, MA, NH, RI, VT

Total Contribution: \$22,941 million

Jobs Generated: 271,196

Gear Retail Sales: \$2,211 million

Trip-related Sales: \$17,696 million

Taxes (federal, state): \$3,369 million



DIVISION 2: MIDDLE ATLANTIC TOTALS

NY, NJ, PA

Total Contribution: \$38,300 million

Jobs Generated: 357,258

Gear Retail Sales: \$5,198 million

Trip-related Sales: \$22,951 million

Taxes (federal, state): \$4,499 million



DIVISION 3: EAST NORTH CENTRAL TOTALS

IN, IL, MI, OH, WI

Total Contribution: \$61,953 million

Jobs Generated: 691,507

Gear Retail Sales: \$7,007 million

Trip-related Sales: \$34,665 million

Taxes (federal, state): \$7,151 million



DIVISION 4: WEST NORTH CENTRAL TOTALS

IA, KS, MN, MO, NE, ND, SD

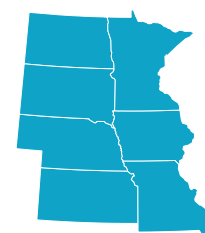
Total Contribution: \$23,836 million

Jobs Generated: 272,654

Gear Retail Sales: \$3,405 million

Trip-related Sales: \$12,771 million

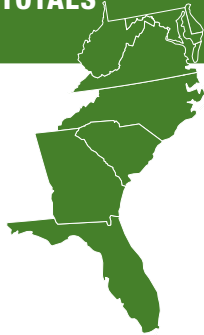
Taxes (federal, state): \$2,609 million



DIVISION 5: SOUTH ATLANTIC TOTALS

DE, DC, FL, GA, MD, NC, SC, VA, WV

Total Contribution: \$67,595 million
Jobs Generated: 794,841
Gear Retail Sales: \$8,243 million
Trip-related Sales: \$43,143 million
Taxes (federal, state): \$8,294 million

**DIVISION 6: EAST SOUTH CENTRAL TOTALS**

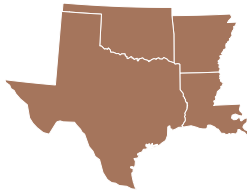
AL, KY, MS, TN

Total Contribution: \$18,790 million
Jobs Generated: 215,126
Gear Retail Sales: \$2,636 million
Trip-related Sales: \$10,875 million
Taxes (federal, state): \$2,545 million

**DIVISION 7: WEST SOUTH CENTRAL TOTALS**

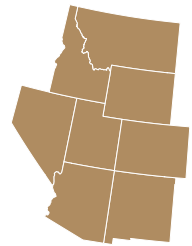
AR, LA, OK, TX

Total Contribution: \$38,465 million
Jobs Generated: 379,933
Gear Retail Sales: \$4,787 million
Trip-related Sales: \$19,077 million
Taxes (federal, state): \$3,782 million

**DIVISION 8: MOUNTAIN TOTALS**

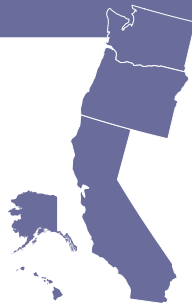
AZ, CO, ID, NM, MT, UT, NV, WY

Total Contribution: \$61,496 million
Jobs Generated: 617,186
Gear Retail Sales: \$4,790 million
Trip-related Sales: \$34,940 million
Taxes (federal, state): \$8,906 million

**DIVISION 9: PACIFIC TOTALS**

AK, CA, HI, OR, WA

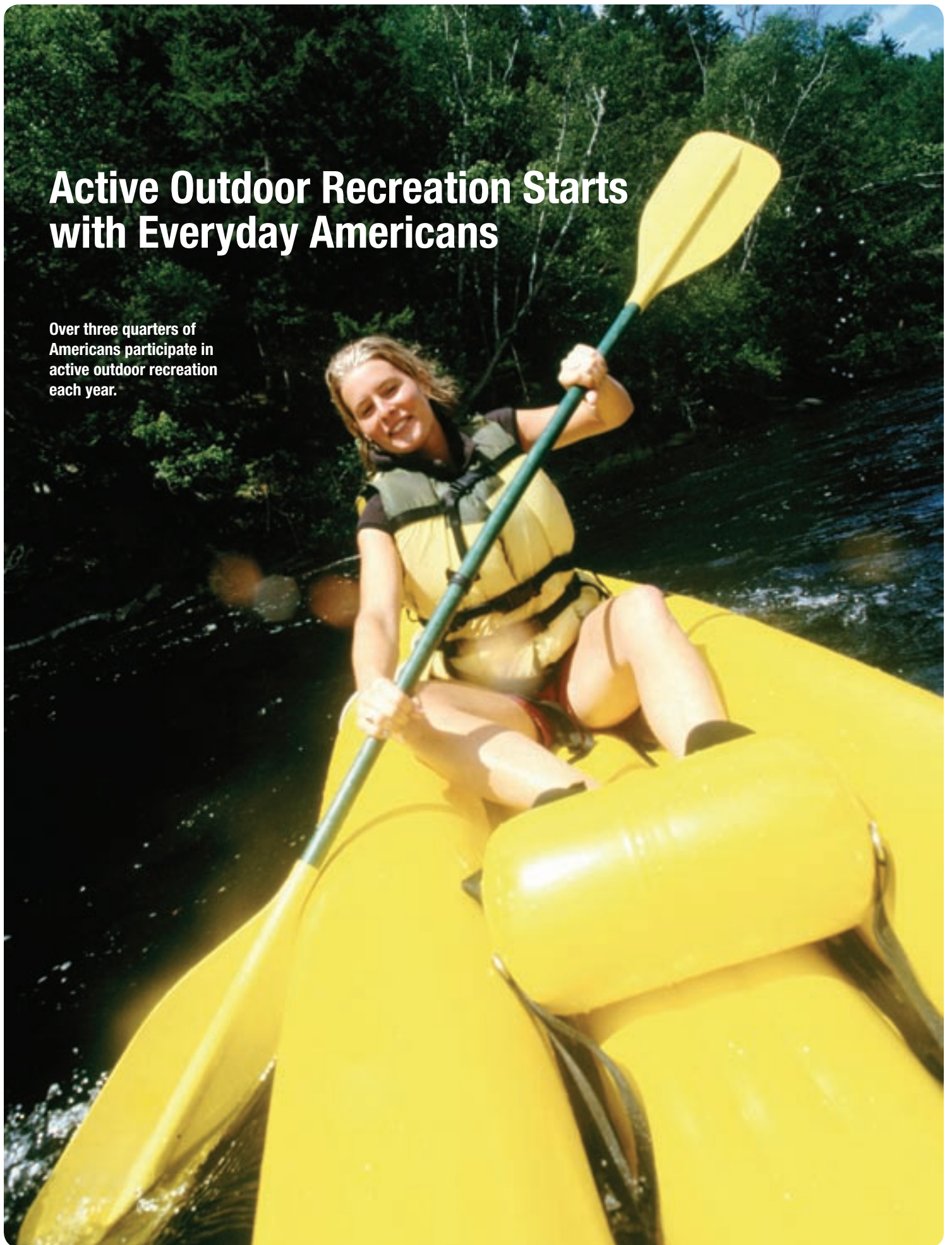
Total Contribution: \$81,696 million
Jobs Generated: 762,247
Gear Retail Sales: \$5,036 million
Trip-related Sales: \$46,081 million
Taxes (federal, state): \$9,369 million

**ACTIVE OUTDOOR RECREATION TOTALS BY CENSUS DIVISION AND ACTIVITY CATEGORY**

To review a comprehensive breakdown of totals by census division and activity category, please see page 19 of this report or visit www.outdoorindustryfoundation.org.

Active Outdoor Recreation Starts with Everyday Americans

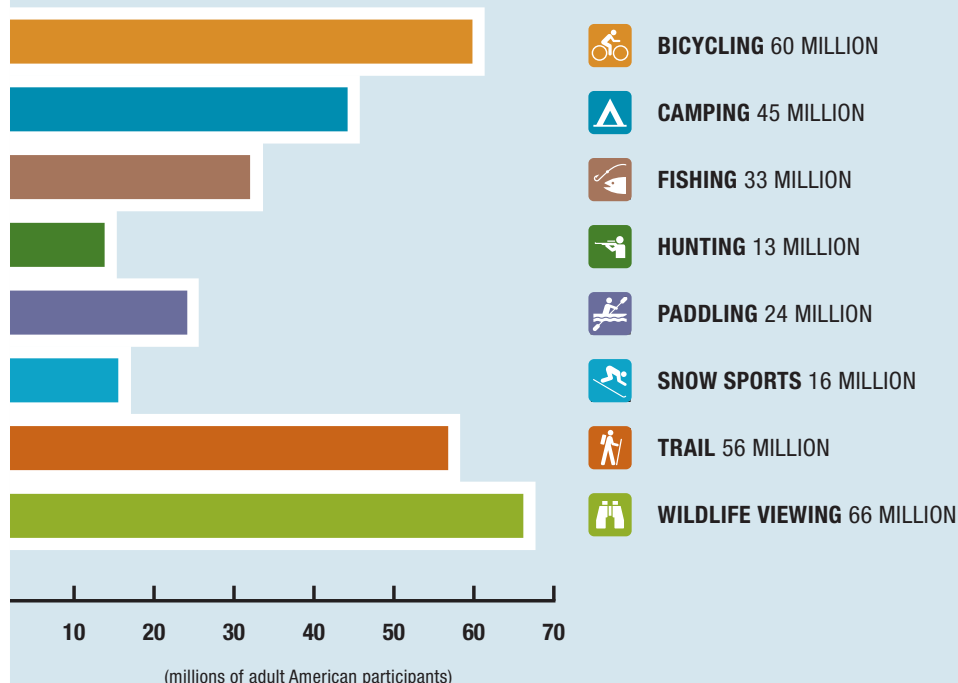
Over three quarters of Americans participate in active outdoor recreation each year.



Who Drives the Recreation Economy?

The Active Outdoor Recreation Economy begins with millions of Americans who come from all walks of life and geographical regions across the country. More than three out of every four Americans engage in healthy outdoor activities, ranging from bird watching to ice climbing, hiking to bass fishing. When Americans get out and participate in these activities, they aren't just having fun and staying fit, they're also pumping billions of dollars into the economy.

ACTIVE OUTDOOR RECREATION PARTICIPANTS BY THE NUMBERS



FAST FACTS

- ★ **More Americans camp than play basketball.¹**
- ★ **The number of Americans who participate in bicycling is double the population of Canada.**
- ★ **More Americans paddle (kayak, canoe, raft) than play soccer.²**
- ★ **The number of Americans who recreate in the snow each year is greater than the combined populations of Ireland, Costa Rica, New Zealand, and Mongolia.**
- ★ **The number of New Englanders who participate in trail-based recreation annually is greater than the combined attendance for all 81 Boston Red Sox home games.³**
- ★ **The number of annual participants in snow-based recreation is more than double the combined annual attendance for NASCAR's two premier series.⁴**

¹ Sporting Goods Manufacturing Association (SGMA) estimates 32 million Americans 6+ played basketball in 2005.

² SGMA estimates 17 million Americans 6+ played soccer in 2005.

³ <http://www.justmarketing.com/index.asp?pid=series>, 2005

⁴ NASCAR's premier series—the 2005 Busch Grand National Series and NEXTEL Cup Series; <http://www.justmarketing.com/index.asp?pid=series>

Active Outdoor Recreation Supports 6.5 Million Jobs

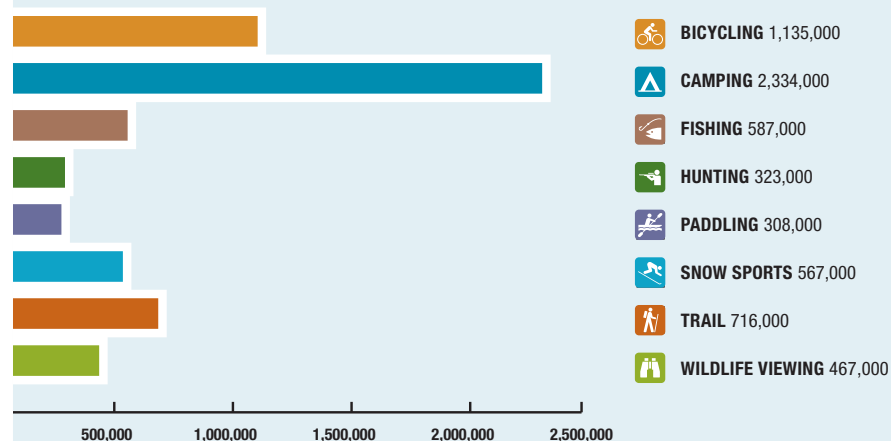
One in 20 Americans depend
upon the Active Outdoor
Recreation Economy to make
a living.



The Active Outdoor Recreation Economy Employs America

Nearly 6.5 million Americans are working thanks to the Active Outdoor Recreation Economy. That's one out of 20 workers in the U.S. These are not just stereotypical seasonal jobs such as cleaning campgrounds or operating ski lifts. Instead, the economy supports a wide range of careers with diverse skills. These sustainable jobs are not confined to any single economic sector and they, in turn, support larger industries—manufacturing, leisure and hospitality, transportation, and wholesale and retail trade. In short, the Active Outdoor Recreation Economy is one of America's most important employers.

JOBS GENERATED BY ACTIVITY CATEGORY



FAST FACTS

- ★ More Americans owe their jobs to bicycle-based recreation than there are people employed as lawyers.⁵
- ★ More Americans owe their jobs to snow-based recreation than there are physicians and surgeons.⁶
- ★ The Active Outdoor Recreation Economy employs five times more Americans than Wal-Mart, the world's largest private employer.⁷
- ★ Camp-based recreation in the U.S. could employ the entire population of Utah.

Note: The jobs figures in the Report are termed "average annual employment" by the economic model. The jobs figures represent an average job for the industry impacted and do not represent full-time equivalent jobs.

⁵ U.S. Department of Labor, Bureau of Labor Statistics, http://www.bls.gov/oes/2004/may/oes_00AI.htm

⁶ *ibid*

⁷ Wal-Mart Annual Report

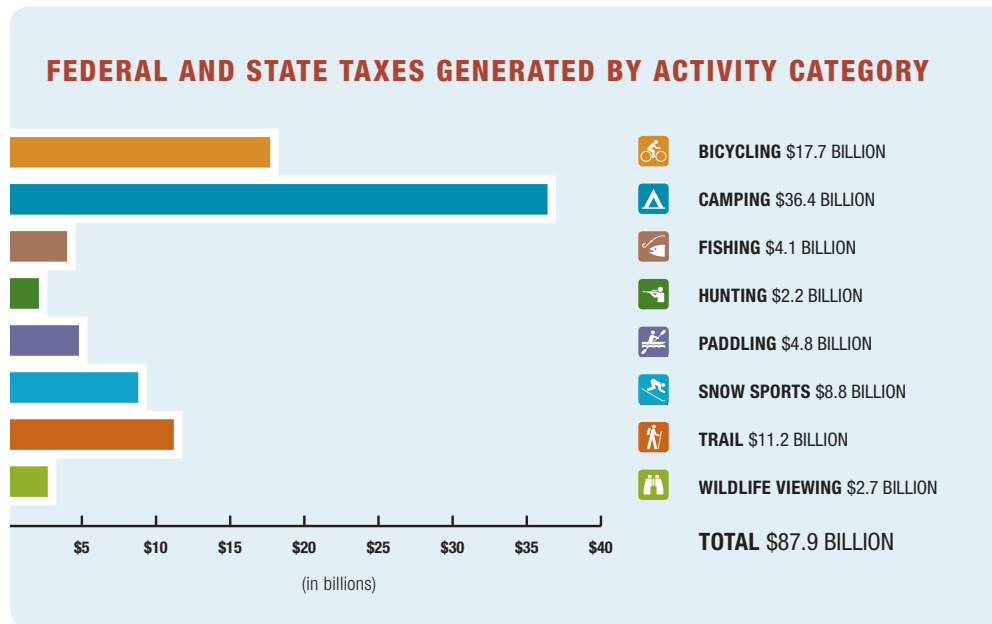
The Active Outdoor Recreation Economy Generates \$88 Billion in Tax Revenues

A photograph of the interior of an outdoor recreation store. The store has a high ceiling with exposed wooden beams and several track lights. The floor is made of light-colored wood. In the center, there is a curved counter with a green back panel. Behind the counter, a sign reads "DIVAS" with a red flower graphic. To the left, there are racks of clothing and a table with folded items. To the right, there are more racks of clothing and a display of shoes on a table. The overall atmosphere is bright and modern.

The federal tax revenue generated by the Active Outdoor Recreation Economy (\$48.5 billion) would cover the budget of the Department of Interior (\$16.4 billion in 2005) for nearly 3 years.⁸

\$88 Billion Coming Back to America: Tax Receipts

The cash spent by Americans in pursuit of active outdoor recreation benefits all Americans, generating \$88 billion in state and federal taxes (sales tax and income tax). This tax influx, in turn, supports government programs that empower and develop communities.



Jump-starting Rural Economic Development

The jobs, tax revenues, and business created by the Active Outdoor Recreation Economy are the lifeblood of rural communities that rely on recreation tourism to enjoy a high quality of life.

According to the US Department of Agriculture, rural tourism and recreational development:

- Spikes employment growth rates
- Buys earnings and income levels
- Lowers local poverty rates
- Shepherds improvements in local educational attainment and health⁹

Mining, logging, oil and gas, and agriculture are the traditional backbone of many rural economies. Today, the sustainable Active Outdoor Recreation Economy has joined that list as communities seek to create a balanced and stable base for long-term economic and community development.

CASE STUDY ★

FRUITA, CO

Eleven years ago, businessman Troy Rarick took a big chance and opened a bike shop in the struggling town of Fruita, Colorado. Over the Edge Sports was one of the few businesses in the mostly vacant downtown. But the shop encouraged the community to build mountain bike trails and organize an annual Fruita Fat Tire Festival. In the 10 years since, Fruita has earned a reputation as a world-class mountain biking destination that pumps \$1.5 million a year into the local economy, according to the Bureau of Land Management. And Fruita's sales tax revenues have increased by 51 percent in the last 5 years, including an 80 percent increase in sales tax revenues from restaurants.¹⁰

MOAB, UT

In 1990, Western Spirit Cycling, based in Moab, Utah, consisted of two employees who ran three trips a year. In 2006, the company employed 35 people and ran hundreds of trips in states throughout the country, spending cash in hotels, grocery stores, restaurants, and bike shops in small towns across the U.S.

⁸ Department of the Interior, <http://www.doi.gov/facts.html>

⁹ U.S. Department of Agriculture, Economic Research Service, August 2005, "Recreation, Tourism, and Rural Well-Being," Richard J. Reeder, and Dennis M. Brown

¹⁰ Bureau of Land Management North Fruita Desert Management Plan-November 2004.

The Active Outdoor Recreation Economy Means Business

Americans spend \$289 billion each year on gear, trip-related items, and services to enjoy active outdoor recreation.



Ringling Up \$289 Billion in Retail Sales

The most obvious boost the Active Outdoor Recreation Economy gives to the nation comes at the cash register. Participants spend their money on both gear and trips.

- Quality gear is key to a fulfilling outdoor experience, and Americans spend \$46 billion each year on their equipment, apparel, footwear, accessories, and services.
- Americans want to spend money on active outdoor excursions, and they spend \$243 billion on trips ranging from a summer camping vacation to an afternoon family bike ride.

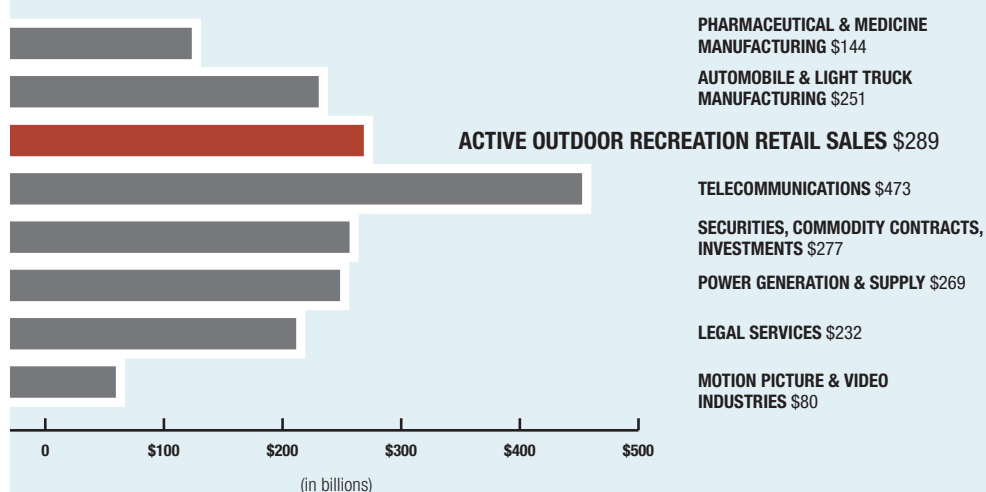
That adds up to a whopping \$289 billion spent annually on active outdoor recreation gear and trips, a bigger direct expenditures contribution to the U.S. economy than that of the securities, commodity contracts, and investments industry (\$277 billion).¹¹

An Overlooked Economic Giant

The Active Outdoor Recreation Economy is big business. It ranks alongside and even dwarfs other major economic sectors in the U.S., such as telecommunications, hospitals and motion pictures and videos.

HOW ACTIVE OUTDOOR RECREATION STACKS UP¹²

Sales comparison to U.S. economic sectors.



CASE STUDY ★

Cuyahoga Valley National Park, OH

Do you think most visitors come to National Parks and National Forests for extended destination vacations? Think again. There were 273 million visits to National Parks in 2005, but only 13.8 million overnight stays.¹³ Over half of recreation visits to National Forests are day trips.¹⁴

- Ohio's Cuyahoga Valley National Park welcomed almost 2.9 million recreation visits in 2003, yet less than five percent were overnight trips.¹⁵
- The 2.7 million day trippers spent over \$44 million during their visits.
- Day trips stimulated 80 percent of the total visitor spending to Cuyahoga, supporting 1,296 local jobs.

Note: The following expenditures were not included: outdoor-lifestyle-inspired purchases made by non-participants, the portion of a purchase that would have been made even if the respondent did not participate, purchases by minors, purchases by foreigners for U.S. products (goods and services) and purchases by foreigners during outdoor trips in the U.S., U.S. resident travel abroad, and large durable purchases such as boats and RVs. (See technical report for more details.)

¹¹ Bureau of Economic Analysis, Industry Economic Accounts, <http://www.bea.gov/bea/dn2.htm>

¹² *ibid*

¹³ National Park Service <http://www2.nature.nps.gov/stats/>

¹⁴ Stynes, Daniel and White, Eric. Spending Profiles of National Forest Visitors, NVUM Four Year Report, May 2005

¹⁵ National Park Service <http://www2.nature.nps.gov/stats/>

CASE STUDY ★

METHOW VALLEY, WA

The Methow Valley trail system in north-central Washington includes nearly 125 miles of groomed paths for cross-country skiing, off-road bicycling, and horseback riding, attracting visitors from across Washington state and beyond.¹⁶

- Trail user (local, resident, non-local) expenditures average \$1,469 per party, per trip.
- Nearly \$4.5 million in direct expenditures are made annually to the Methow Valley economy by trail users.
- The ripple effect creates an additional \$4.1 million economic contribution to the local economy.

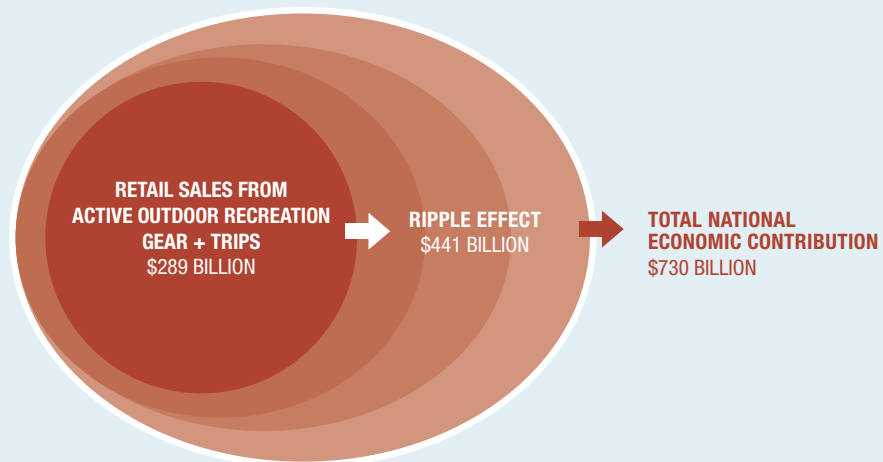
The Ripple Effect Multiplies the Contribution of Sales

No economy exists in a vacuum. The \$289 billion Americans spend on active outdoor recreation gear and trips circulates further through the economy, creating a virtuous cycle, known as the “multiplier” or “ripple” effect, which adds up to another \$441 billion to create the \$730 billion Active Outdoor Recreation Economy. This dynamic economy is a sum total of economic interactions that benefit all of America's major economic sectors.

Think of a kayak slicing through the water. The kayak creates ripples in the water that move further away as they dissipate. Likewise, when a patron goes to an outdoor store and buys a kayak, the economic contribution is not limited to the money the consumer gives to the retail store. The purchase creates ripples that affect the suppliers of materials for the boat, the boat manufacturer, and the shipping company that transported the kayak.

Additionally, the outdoor store employee and the employees of the suppliers and manufacturers spend their paychecks on goods and services. This further economic contribution accumulates each time it passes through a different set of hands, yet is smaller at each touch point as the ripples grow smaller but continue to be felt.

FAR REACHING RIPPLES



Note: A conservative 10% of “secondary” trip expenditures were included for non wildlife-based active outdoor recreation trips. Active outdoor recreation expenditures were made on the trip but the purpose of the trip was not primarily for recreation. However, expenditures would not have occurred unless recreation opportunities existed.

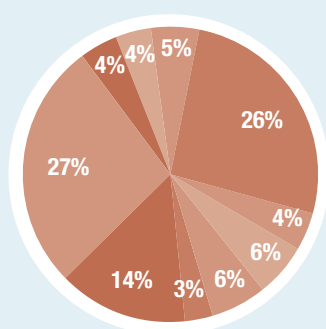
¹⁶ Methow Valley Sport Trails Association, prepared by Resource Dimensions; “Economic Impacts of MVTSA Trails and Land Resources in the Methow Valley,” July 2005)

Beyond the Outdoor Industry

The Active Outdoor Recreation Economy reaches far beyond the outdoor industry, making major direct contributions to all the building-block sectors of the American economy, including manufacturing, transportation, and real estate.

AN ESSENTIAL COMPONENT OF THE AMERICAN ECONOMY¹⁷

Active outdoor recreation spreads \$730 billion to all U.S. economic sectors



MANUFACTURING	26.2%
TRANSPORTATION & WAREHOUSING	4.1%
RETAIL TRADE	6.4%
REAL ESTATE & RENTAL	6%
ARTS, ENTERTAINMENT & RECREATION	3.2%
ACCOMMODATIONS & FOOD SERVICES	13.6%
FINANCE & INSURANCE	4.9%
PROFESSIONAL – SCIENTIFIC & TECHNICAL SERVICES	4.2%
INFORMATION	4.2%
ALL OTHER SECTORS	27.2%

And \$730 Billion Is Just the Beginning

This report took a conservative approach in defining expenditures related to active outdoor recreation. Many participants make additional big-ticket purchases that add to the national economy which were not included in this report.

- Over \$30 billion of boat and other big-ticket sales from wildlife-based recreation were not added into this calculation of the Active Outdoor Recreation Economy.
- Only a small portion of the over \$14 billion in recreation vehicle sales were included in this report.¹⁸
- Participants buy and lease land (\$12 billion from wildlife based recreation alone), cabins, and second homes. This study does not take those property sales into account.

When you add in these big-ticket items and purchases for fishing, hunting and wildlife viewing, the Active Outdoor Recreation Economy pumps \$900 billion into the U.S. economy each year.

FAST FACTS

- ★ Americans spent 88 times more on bicycle-based recreation in one year than the total box office draw for *Titanic*, the top grossing movie of all time.¹⁹
- ★ The Great Allegheny Passage, connecting Pittsburgh to the C&O Canal towpath leading to Washington, D.C., generated \$7 million in direct spending in 2002. Bolstered by the growth of trail-related businesses, the Passage will stimulate an estimated \$12 to \$15 million in direct spending in 2007.²⁰
- ★ Studies estimate that physically inactive individuals have 24 percent higher health-care costs than active individuals.²¹

¹⁷ Bureau of Economic Analysis, Industry Economic Accounts, <http://www.bea.gov/bea/dn2.htm>

¹⁸ Recreational Vehicle Industry Association-
<http://rvia.org/Media/ShipmentsData.htm>

¹⁹ <http://movies.go.com/boxoffice?cat=2005>

²⁰ Farber Ph.d, Stephen, "2002 User Survey for The Pennsylvania Allegheny Trail Alliance," University Center for Social and Urban Research, University of Pittsburgh; Allegheny Trail Alliance

²¹ www.cdc.gov



Conclusion

Learn more on the web at:
outdoorindustryfoundation.org

The \$730 Billion Active Outdoor Recreation Economy Offers a Healthy, Sustainable Future for All Americans

The Active Outdoor Recreation Economy is a vital force in the national economy, yet is often overlooked. It supports nearly 6.5 million jobs and impacts all geographical regions of the country. It is inclusive of all gender, racial, ethnic, and religious groups. It pumps capital into major sectors of U.S. industry. The Active Outdoor Recreation Economy is sustainable year after year.

Furthermore, the \$730 billion figure established by this report is just a small fraction of the deeper value that Americans place on the opportunity to recreate in nature. Major corporations make decisions on where to build and invest based upon the quality of life they can offer employees. Real estate and land near outdoor recreation opportunities has been shown to increase in value. There are compelling non-market benefits to a healthy Active Outdoor Recreation Economy (education, science, research, biodiversity), which can also multiply the economic contribution.

Beyond business, active outdoor recreation improves the physical health of the nation. Over 30 percent of adult Americans and 16 percent of children and teens are obese. Increased participation in outdoor recreation is a natural solution to this obesity crisis. Getting more Americans to participate in a stronger Active Outdoor Recreation Economy also reduces health-care costs and creates a greater sense of well-being and happiness for everyone.

Active outdoor recreation's \$730 billion contribution is essential to our economic foundation. The recognition and stimulation of this market force should be a prime concern to all Americans who value a flourishing, sustainable economy. But the true value of outdoor recreation cannot be quantified. It is a priceless American treasure.



ACTIVE OUTDOOR RECREATION TOTALS BY CENSUS DIVISION AND ACTIVITY CATEGORY

Data sources are the organizations listed in the acknowledgements above and in the footnotes below. An illustration of the census divisions is on the next page.

	CENSUS D1	D2	D3	D4	D5	D6	D7	D8	D9	NATIONAL	
Bicycle-Based Recreation	# Participants (thousands)	2,496	8,161	11,329	42,351	10,715	1,592	6,491	4,078	10,313	59,837
	% Population Participating	23%	26%	33%	28%	25%	20%	26%	27%	29%	27%
	Gear Retail Sales* (millions)	\$331	\$677	\$873	\$310	\$1,370	\$219	\$621	\$429	\$1,399	\$6,230
	Trip Related Sales* (millions)	\$2,814	\$3,097	\$11,209	\$1,781	\$8,272	\$3,084	\$3,941	\$3,715	\$9,024	\$46,938
	Jobs Supported	40,121	44,298	190,972	31,615	134,881	43,828	66,290	59,939	135,422	1,135,268
	Taxes - Federal and State (millions)	\$555	\$623	\$2,162	\$359	\$1,623	\$310	\$766	\$1,007	\$1,862	\$17,701
	Total Economic Contribution (millions)	\$3,372	\$4,757	\$17,024	\$2,704	\$11,337	\$3,895	\$6,884	\$6,233	\$15,001	\$132,827
Camp-Based Recreation	# Participants (thousands)	1,874	4,910	8,687	3,441	7,258	1,374	4,203	4,934	8,479	45,161
	% Population Participating	17%	16%	25%	23%	17%	18%	17%	33%	24%	21%
	Gear Retail Sales* (millions)	\$362	\$901	\$1,660	\$606	\$1,345	\$290	\$966	\$864	\$1,652	\$8,676
	Trip Related Sales* (millions)	\$6,646	\$9,281	\$14,687	\$6,171	\$19,867	\$4,122	\$9,454	\$13,992	\$16,393	\$100,614
	Jobs Supported	89,384	119,512	258,363	102,475	296,727	58,549	151,838	214,870	234,468	2,333,638
	Taxes - Federal and State (millions)	\$1,236	\$1,681	\$2,926	\$1,164	\$3,573	\$1,207	\$1,755	\$3,611	\$3,224	\$36,387
	Total Economic Contribution (millions)	\$7,513	\$12,834	\$23,031	\$8,765	\$24,940	\$5,204	\$15,767	\$22,345	\$25,972	\$273,037
Fishing** ^	# Participants (thousands)	1,890	3,500	6,040	4,320	8,180	3,020	4,730	3,280	4,480	32,900
	% Population Participating	17%	11%	18%	28%	20%	22%	19%	23%	12%	18%
	Gear Retail Sales* (millions)	\$271	\$509	\$845	\$646	\$1,478	\$439	\$749	\$587	\$893	\$6,416
	Trip Related Sales* (millions)	\$757	\$1,119	\$1,660	\$1,426	\$3,222	\$1,013	\$1,659	\$1,862	\$2,574	\$16,205
	Jobs Supported	17,195	26,912	50,294	39,887	92,667	30,638	47,627	46,319	62,080	586,512
	Taxes - Federal and State (millions)	\$140	\$238	\$388	\$305	\$659	\$201	\$333	\$306	\$529	\$4,050
	Total Economic Contribution (millions)	\$1,768	\$3,073	\$5,066	\$4,003	\$8,841	\$2,862	\$4,801	\$4,454	\$6,576	\$61,429
Hunting *** ^	# Participants (thousands)	450	1,820	2,460	2,100	1,970	1,440	2,190	1,340	850	12,800
	% Population Participating	4%	6%	7%	14%	5%	11%	9%	10%	2%	6%
	Gear Retail Sales* (millions)	\$159	\$773	\$1,072	\$761	\$886	\$791	\$1,101	\$752	\$592	\$6,886
	Trip Related Sales* (millions)	\$271	\$401	\$595	\$511	\$1,155	\$363	\$595	\$667	\$922	\$5,528
	Jobs Supported	7,234	17,702	32,151	25,227	38,067	22,627	31,249	28,830	25,830	322,570
	Taxes - Federal and State (millions)	\$46	\$148	\$231	\$169	\$266	\$146	\$211	\$174	\$200	\$2,186
	Total Economic Contribution (millions)	\$731	\$2,174	\$3,293	\$2,431	\$3,821	\$2,315	\$3,282	\$2,605	\$2,781	\$34,090
Paddle-Based Recreation	# Participants (thousands)	1,586	3,356	4,607	1,462	4,410	702	1,637	1,586	4,246	23,596
	% Population Participating	14%	11%	13%	10%	10%	9%	7%	11%	12%	11%
	Gear Retail Sales* (millions)	\$101	\$356	\$433	\$181	\$563	\$105	\$168	\$175	\$585	\$2,668
	Trip Related Sales* (millions)	\$631	\$1,591	\$1,781	\$505	\$1,757	\$616	\$712	\$860	\$3,324	\$11,778
	Jobs Supported	9,331	22,844	34,999	10,393	32,457	9,571	12,781	14,976	50,805	308,469
	Taxes - Federal and State (millions)	\$129	\$321	\$396	\$118	\$391	\$197	\$148	\$252	\$699	\$4,810
	Total Economic Contribution (millions)	\$784	\$2,453	\$3,120	\$889	\$2,728	\$851	\$1,327	\$1,557	\$5,628	\$36,091
Snow-Based Recreation	# Participants (thousands)	1,473	2,160	2,274	1,176	2,141	224	776	1,858	3,505	15,587
	% Population Participating	13%	7%	7%	8%	5%	3%	3%	13%	10%	8%
	Gear Retail Sales* (millions)	\$206	\$461	\$295	\$213	\$518	\$46	\$132	\$490	\$765	\$3,125
	Trip Related Sales* (millions)	\$4,091	\$3,047	\$1,672	\$714	\$1,590	\$110	\$0	\$6,501	\$5,685	\$23,412
	Jobs Supported	54,801	41,172	31,085	14,021	29,485	2,080	1,914	101,115	83,815	566,629
	Taxes - Federal and State (millions)	\$758	\$579	\$352	\$159	\$355	\$43	\$22	\$1,699	\$1,153	\$8,835
	Total Economic Contribution (millions)	\$4,606	\$4,421	\$2,771	\$1,199	\$2,478	\$185	\$199	\$10,515	\$9,284	\$66,296
Trail-Based Recreation	# Participants (thousands)	3,048	6,648	8,122	3,407	9,642	1,746	5,250	5,433	12,538	55,834
	% Population Participating	28%	22%	23%	23%	23%	23%	21%	36%	35%	26%
	Gear Retail Sales* (millions)	\$184	\$401	\$281	\$209	\$517	\$133	\$474	\$361	\$780	\$3,340
	Trip Related Sales* (millions)	\$2,065	\$3,792	\$2,136	\$869	\$5,486	\$1,003	\$1,792	\$6,307	\$6,726	\$30,177
	Jobs Supported	28,686	49,218	38,208	16,292	83,978	15,073	32,916	96,450	97,523	715,661
	Taxes - Federal and State (millions)	\$397	\$692	\$433	\$185	\$1,011	\$311	\$380	\$1,621	\$1,341	\$11,159
	Total Economic Contribution (millions)	\$2,411	\$5,285	\$3,406	\$1,394	\$7,058	\$1,340	\$3,418	\$10,030	\$10,802	\$83,733
Wildlife Viewing **** ^	# Participants (thousands)	4,990	9,580	12,500	6,930	12,900	5,090	6,150	6,870	10,500	66,100
	% Population Participating	45%	31%	37%	46%	32%	37%	25%	49%	29%	30%
	Gear Retail Sales* (millions)	\$597	\$1,120	\$1,223	\$479	\$1,566	\$613	\$576	\$1,132	\$1,538	\$8,845
	Trip Related Sales* (millions)	\$421	\$623	\$925	\$794	\$1,794	\$564	\$924	\$1,036	\$1,433	\$8,591
	Jobs Supported	24,445	35,600	55,436	32,744	86,578	32,760	35,318	54,687	72,304	466,525
	Taxes - Federal and State (millions)	\$108	\$217	\$263	\$150	\$416	\$130	\$167	\$236	\$361	\$2,740
	Total Economic Contribution (millions)	\$1,756	\$3,303	\$4,242	\$2,451	\$6,392	\$2,138	\$2,787	\$3,757	\$5,652	\$43,476

* Sample sizes are detailed in the technical report.

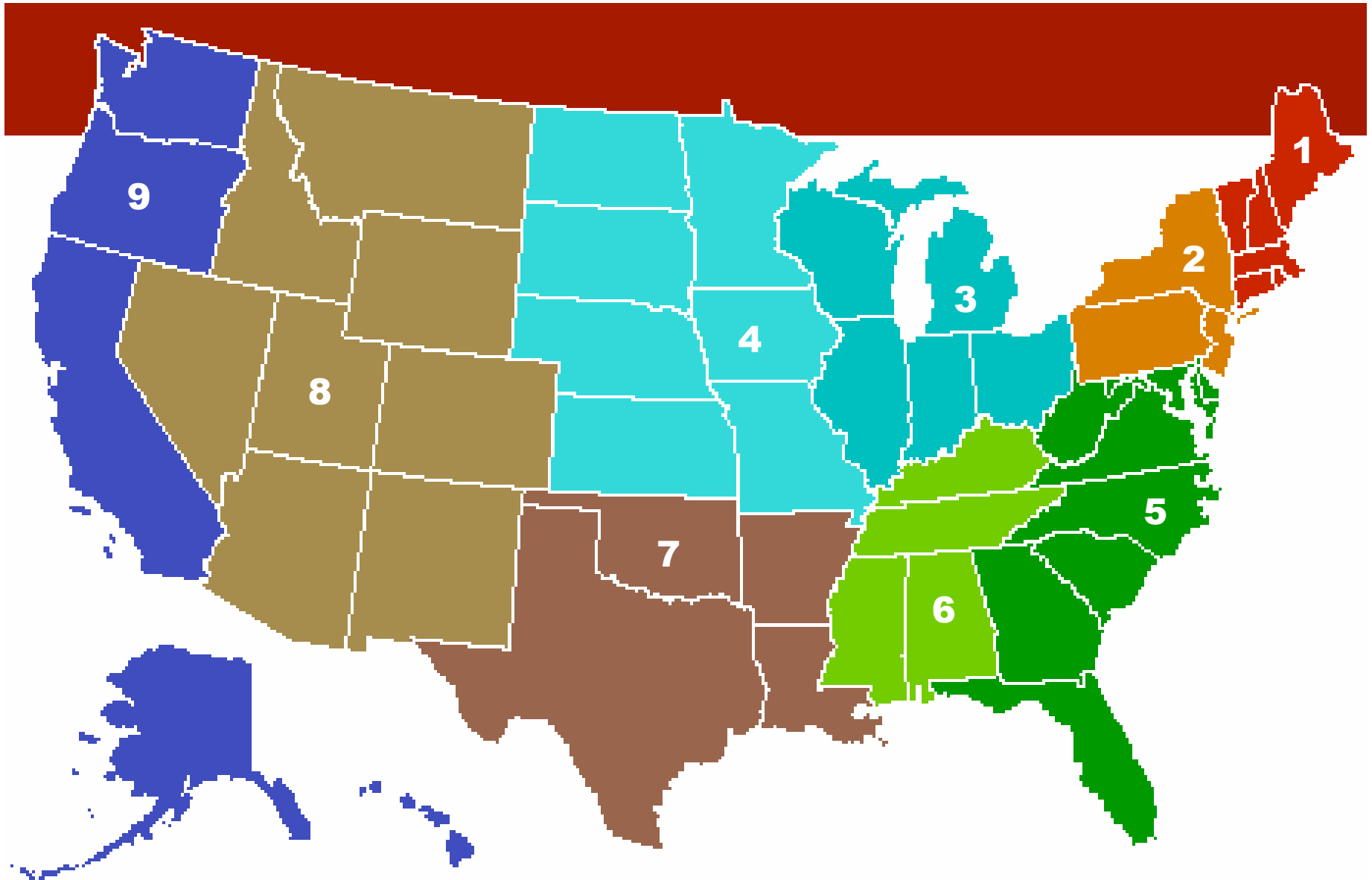
** Source: American Sportfishing Association – "Sportfishing in America: Values of Our Traditional Pastime," 2002

*** Source: International Association of Fish and Wildlife Agencies – "The Economic Importance of Hunting in America," 2002

**** U.S. Fish and Wildlife Service – "2001 National and State Economic Impacts of Wildlife Viewing," Published 2003

^ Wildlife-based recreation activities (fishing, hunting, wildlife viewing) were derived from above sources which contain a greater level of details (including state information). Assumptions were made to align the methodologies of the wildlife-based studies with the Active Outdoor Recreation survey (other 5 activity categories). See technical report for details. Wildlife-based participation based on 16+ participation. Other 5 activity categories based on 18+. Wildlife-based participant populations used to derive incidence is the 2001 16+ population adjusted for each census division by the growth in national population from 2000 to 2005. Crossover participation data does not exist for wildlife viewing as defined by the USFW and the 5 Active Outdoor Recreation categories. Census division figures will not add to national figures due to larger national multipliers (greater leakages in smaller geographic region). D.C. wildlife figures are not included in the census trip expenditures but are included in the national figure.

Census Divisions Locator



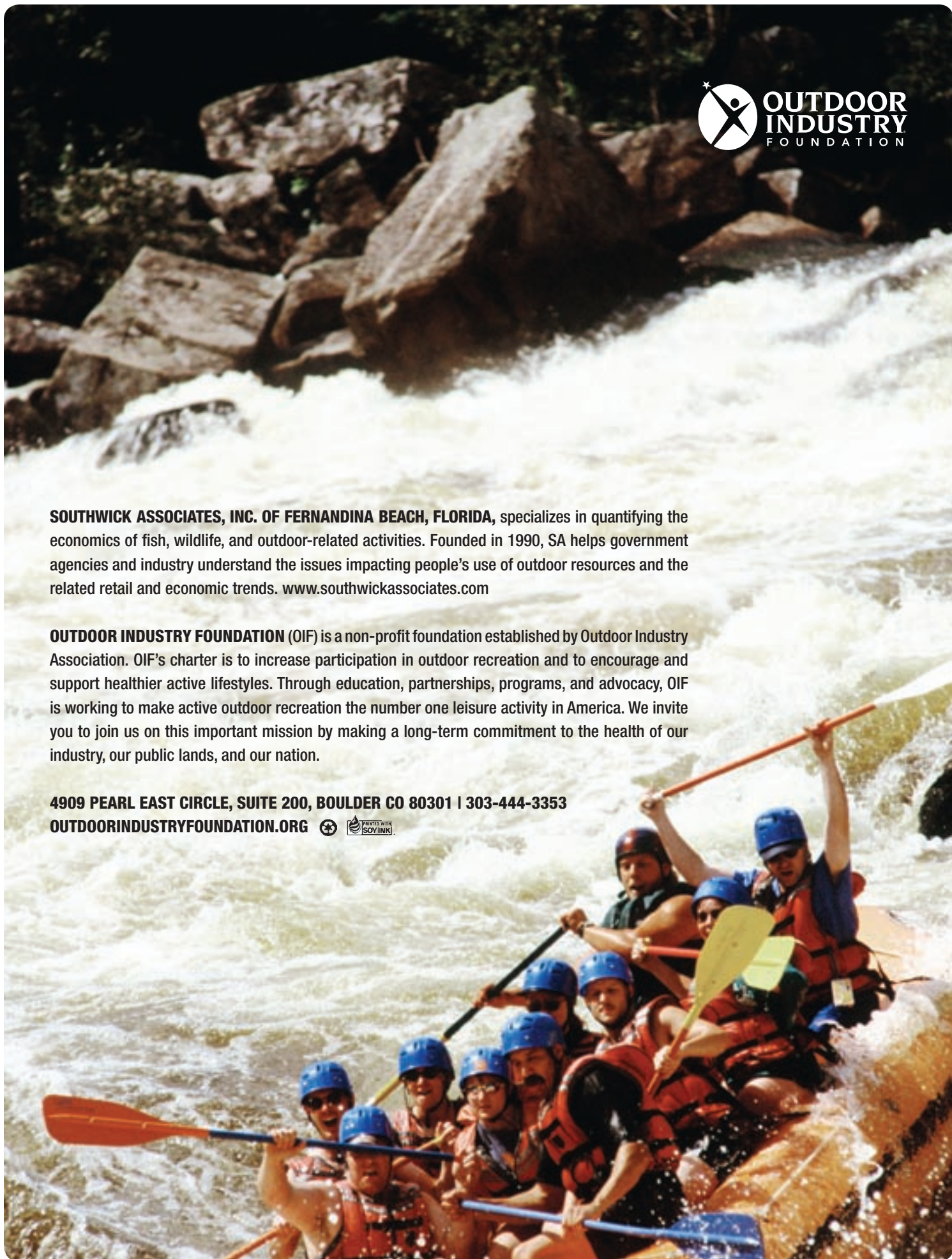


SOUTHWICK ASSOCIATES, INC. OF FERNANDINA BEACH, FLORIDA, specializes in quantifying the economics of fish, wildlife, and outdoor-related activities. Founded in 1990, SA helps government agencies and industry understand the issues impacting people's use of outdoor resources and the related retail and economic trends. www.southwickassociates.com

OUTDOOR INDUSTRY FOUNDATION (OIF) is a non-profit foundation established by Outdoor Industry Association. OIF's charter is to increase participation in outdoor recreation and to encourage and support healthier active lifestyles. Through education, partnerships, programs, and advocacy, OIF is working to make active outdoor recreation the number one leisure activity in America. We invite you to join us on this important mission by making a long-term commitment to the health of our industry, our public lands, and our nation.

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OUTDOORINDUSTRYFOUNDATION.ORG  



Some References to Current and Future Impacts of Global Warming

Outdoor recreation and tourism are sensitive to changes in temperature, rainfall, snowfall, and storm events, and are thus sensitive to climatic variability and change. Tourism businesses, which usually are location-specific, have a higher potential than the tourists themselves (who have a wider variety of options) to be affected by climate change.

Shifts in temperature and precipitation patterns could lead to shifts in a variety of outdoor tourism and recreation opportunities, such as skiing, fishing and hunting. The effects of climate change on tourism in any particular area depend in part on whether the tourist activity is summer- or winter-oriented and, for the latter, the elevation of the area and the impact of climate on alternative activities and destinations.

Some Sports and Business Impacts:

- Global Warming Poses Risks to Pacific Northwest Snowpack, Ski Resorts

Global warming in the coming decades may cause the disappearance of large areas of the low-elevation snowpack in the Cascade Range of the Pacific Northwest, with significant impacts on ski resorts in the region. Current global climate models predict more frequent winter rain events and earlier snow melt in the spring, which would also affect planning for irrigation and flood control. Snowpack is one of the critically important factors for recharging groundwater, since it melts slowly and more of it infiltrates rather than running off as rainfall does. Similar results would almost certainly be seen in the Sierra Nevada range of California, too. Research by Oregon State University. *Journal of Hydrometeorology* (accepted for publication).

- Lower Snowfalls and Increased Climate Instability in the Alps—Impacts to Resorts, Manufacturers, Retailers, Guide Services

The past winter season in Europe was warm and mild. A prediction has been made by the Organisation for Economic Co-operation and Development (OECD) that there will be reduced snowfalls and snow cover in Europe in the future, and consequently increasing losses in winter tourism in Europe and increased exposure of settlements and infrastructure to natural hazards. This comes from a two-year study in Europe that made the first systematic international analysis of the snow-reliability of Alpine ski areas under climate change for five countries in the region (France, Switzerland, Austria, Italy and Germany). The implications of this assessment extend beyond the European Alps to other mountain systems which may face similar climate and contextual challenges, for example in North America, Australia and New Zealand. See “Concern over Europe ‘snow crisis.’” BBC News Report, Dec. 16, 2006; “Climate Change in the European Alps: Adapting Winter Tourism and Natural Hazards Management.” OECD publication, Jan. 2007.

Some Ecosystem and Public Land Impacts:

- Less Snowpack, Diminished Water in California

Observations of earlier snow melt and a decrease in late spring and summer river flow rates show that California is getting warmer. Recent winter river flows have increased and spring river flows have decreased, showing that the snow in the Sierras is melting faster and causing a shift in the timing of mountain runoff. California is not able to capture that increased wintertime runoff because the state's reservoirs during that time of year (winter months) are typically as full as they are allowed to be. There is a trend of less water when it's needed and more water at the wrong time. "Global Warming Affects California Water." Lawrence Livermore National Laboratory *Newsline*, July 2004.

- Changing climatic conditions are already affecting some parks.

Montana's Glacier National Park has only 27 glaciers today, down from an estimated 150 glaciers that existed there in 1850. The largest glaciers in the park are, on average, only 28 percent of their previous size. Retreat of mountain glaciers has already begun in other parts of North America and in other regions of the world as well. *Our Changing Planet: The U.S. Climate Change Science Program for Fiscal Year 2006*. A Supplement to the President's Fiscal Year 2006 Budget. *Climate Change 2001: Impacts, Adaptation and Vulnerability*. Cambridge University Press.

- Climate change is transforming Alaska's landscape.

Lakes and wetlands in the Kenai Peninsula of south-central Alaska are drying at a significant rate. The shift seems to be driven by climate change, and could endanger waterfowl habitats and hasten the spread of wildfires. A significant landscape shift from wetlands to woodland and forest in the Kenai Peninsula Lowlands is documented, the trend fitting within a global picture of drying wetlands in northern latitudes, with similar changes already appearing in lower latitudes. National Research Council of Canada and *Canadian Journal of Forest Research*, **35**: 1931–1941 (2005).

- Certain fish species are becoming less abundant worldwide.

Fish populations and other aquatic resources are likely to be affected by warmer water temperatures, changes in seasonal flow regimes, total flows, lake levels, and water quality. These changes will affect the health of aquatic ecosystems, with impacts on productivity, species diversity, and species distribution. Intergovernmental Panel on Climate Change (IPCC), 2001: *Climate Change 2001: Impacts, Adaptation, and Vulnerability*. Third Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press.

- The composition of most current ecosystems is likely to change.

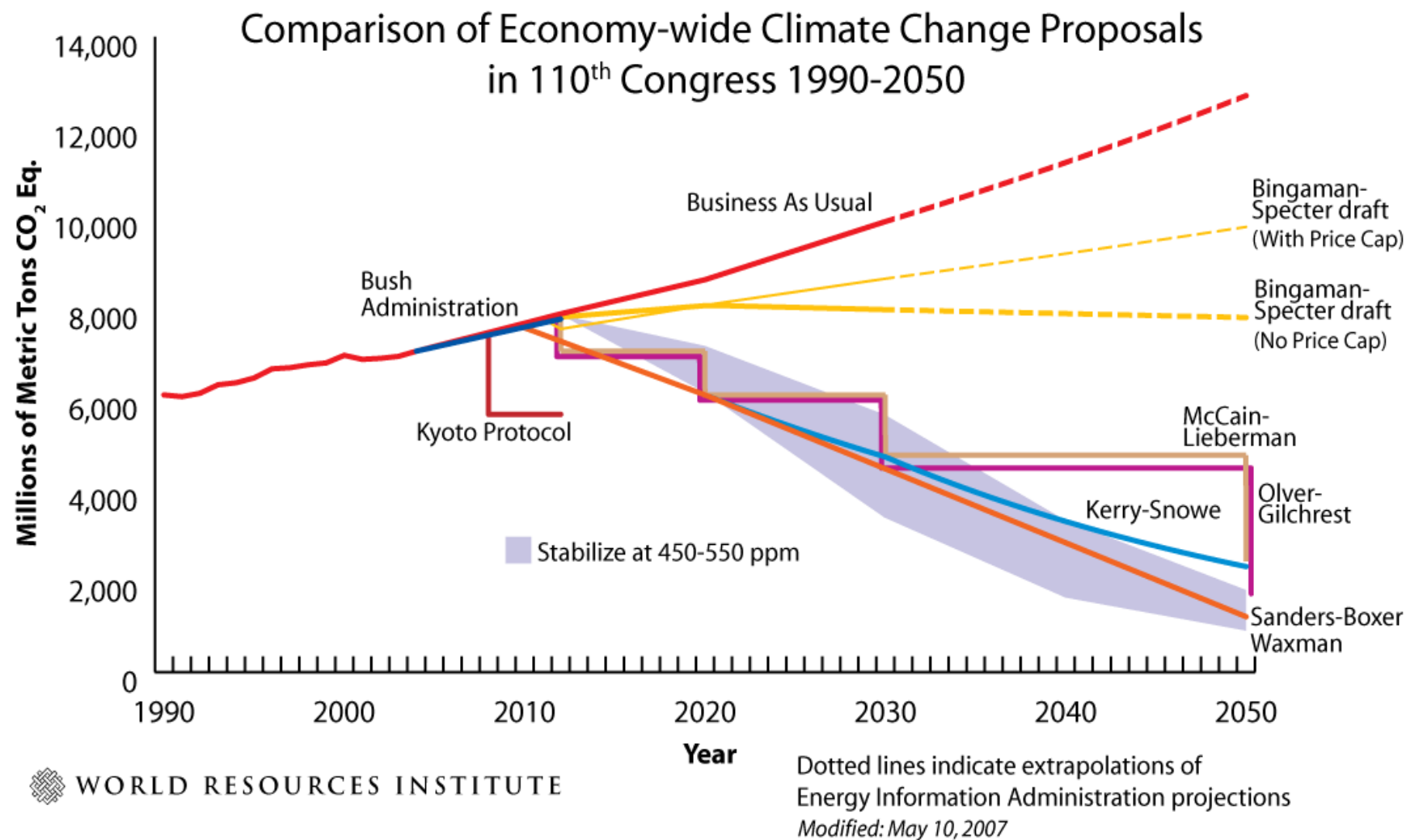
The habitats of many species will move pole-ward or to higher elevations from their current locations. The risk of extinction will increase for many species that are already vulnerable. IPCC, 2002. Technical Paper. *Climate Change and Biodiversity*.

- See *also* web sites on climate change:

at the U.S. Environmental Protection Agency
(<http://www.epa.gov/climatechange/index.html>)

at Environment Canada
(<http://www.ec.gc.ca/default.asp?lang=En&n=6EE576BE-1>)

- The Intergovernmental Panel on Climate Change (IPCC) will release its Fourth Assessment Report in four volumes over the course of 2007. The completion of this report will be the culmination of six years of work.



On April 26, 2007 the Canadian Minister of the Environment, the Honorable John Baird, unveiled an action plan that will regulate major industrial sectors in Canada to tackle climate change and clean up the air. This announcement is one of the main features of the Canadian government's environmental agenda.